BRITISH MEDICAL JOURNAL

LONDON: SATURDAY, AUGUST 17th, 1935

PNEUMONOCONIOSIS

WITH SPECIAL REFERENCE TO THE SILICO-ANTHRACOSIS OF COAL MINERS

BY

S. LYLE CUMMINS, C.B., C.M.G., M.D.

PROFESSOR OF TUBERCULOSIS, WELSH NATIONAL SCHOOL OF MEDICINE, CARDIFF

At the International Congress on Silicosis, Johannesburg, 1930, the definition of silicosis finally accepted was as follows: "A pathological condition of the lungs due to the inhalation of silicon dioxide." This definition has been challenged, in recent years, especially by the observations of W. R. Jones of the Royal School of Mines, London, who associates "silicosis" with sericite (1933); and it is quite certain that grave pathological effects follow the inhalation of certain mineral particles—for example, asbestos dust—in which the silica is not free but combined as a silicate.

In this paper no attempt will be made to discuss the problems raised in this controversy, which is still unsettled, but, instead, the issue will be avoided by adopting the following less stringent definition of silicosis as "a pathological condition of the lungs due to the inhalation of silica, whether free or combined, in such a state as to be capable of setting up its characteristic pathogenic effects." At the International Congress above referred to E. L. Middleton expressed the view that

> "while it appears to be true that free silica tends to produce its characteristic effects whether alone or in admixture with other dusts, it seems equally true that its action is influenced to a greater or less extent by such dusts. When the accompanying dusts happen to be silicates which are capable themselves of producing effects, the resulting changes in the lung tissues, the influence on function, and the reactions to infections, become extremely complicated."

This is true; and it may therefore be justifiable to attempt a simplification of the problem presented by the inhalation of mixed dusts, the fact being that the dust inhaled by the industrial worker is practically never pure but always mixed.

Active Dusts and Inert Dusts

The first broad differentiation which it seems necessary to make is that between (*a*) dusts which are chemically active, and (*b*) dusts which are inert, when inhaled into the respiratory tract.

(*a*) *Chemically active dusts* must necessarily be soluble, to a greater or less extent, in the body fluids; and it is upon this solubility that their activity depends. This activity, manifested in the situations to which the dust particles are carried in phagocytes along the lymph stream, causes lesions of two types, "toxic" and "sclerotic," both of which have been reproduced experimentally by Gye, Purdy, and Kettle in this country, and by Gardner in America. The toxic lesions depend on local necrosis and cell death, and appear to favour the pullulation of tubercle bacilli. The sclerotic lesions take the form of the nodular and diffuse fibrosis so characteristic of silicosis.

(*b*) *Inert dusts* are insoluble in the body fluids, and therefore cannot exert any chemical action in the lung tissues. They may, however, if they accumulate to any marked extent, exert the mechanical action characteristic of foreign bodies, and thus lead to a certain amount of diffuse fibrosis around the dust deposits. Certain chemically inert dusts, too, may have physical effects; there being, for instance, much reason to think that the carbon accumulations in silico-anthracotic lungs are capable of adsorbing toxic substances; an action to which the writer attributes the relatively low incidence of clinically active tuberculosis in silicotic coal miners.

A state of pneumonoconiosis may depend either upon the inhalation of chemically active dust particles alone, of inert dust particles alone, or of active and inert particles breathed in together or in succession the one to the other.

The lung tissue, after death, presents to the investigator a record of the mineral particles breathed in during life; is, in fact, a kind of palimpsest of the individual's industrial history. This statement, however, while true as a generality, must be made with one reservation, especially in view of the recent observations of E. King in Toronto (1934). If, as we believe, the activity of a dust depends upon its gradual solubility, the examination of lung residues is likely to bring to light a larger proportion of the inert and insoluble minerals than of the chemically active and relatively soluble minerals to which the more important pathological lesions are actually due.

This fact has not been sufficiently stressed in the past, either by the present writer or by other workers on pneumonoconiosis. The persistence of a given substance in the lung tissue and its preponderating excess in lung residues does not, in itself, constitute a proof of its aetiological importance. If, for instance, sericite were proved to be insoluble, or almost insoluble, in the body fluids, its mere presence in the lungs would be no argument in favour of its role in the production of lung fibrosis. Like the inert coal dust, it might accumulate in the lung tissues and always be visible in sections, yet be chemically harmless, in contrast to silica, which is known to be sufficiently soluble to set up pathological changes in the situations to which it has been carried in the lungs and lymphatic glands.

This problem of the relative solubility of the mineral constituents of inhaled dusts in relation to their pathogenic properties is one which calls for further careful study by chemists and pathologists working together.

These remarks are made without prejudice to the sericite *v.* silica controversy. Jones, indeed, suggests, in his original publication (1933) that sericite fibres are soluble in the body fluids; "silicate minerals less stable than

quartz" he calls them, "and which, because of their physical form, expose far greater surface to volume for any chemical action than do the more compact grains of quartz." His views on this point, however, are not universally accepted, and require the confirmation of careful biochemical investigation.

The accumulation of stone dust in the lungs has, however, a very definite significance, as proof that the individual has been exposed to high concentrations of the dusts found, and as evidence that some factor has interfered with the normal power of the lungs to free themselves from the dusts inhaled during life.

Classification of the Pneumonoconioses

With these preliminary remarks it is now possible to pass to a simple classification of the effects of inhaled dusts.

Type 1.—Dust retention and accumulation determined by the operation of a chemically active dust inhaled into the lungs; resulting in nodular fibrosis and, in *x*-ray films, bilateral symmetrical mottling.

Examples: silicosis; asbestosis.

Type 2.—Retention and accumulation of an inert dust, determined by lymphatic blockage through previous or simultaneous inhalation of a chemically active dust; resulting in nodular and diffuse fibrosis, dust accumulations, and, in *x*-ray films, bilateral symmetrical mottling and irregular diffuse shadows.

Examples: silico-anthracosis; silico-siderosis.

Type 3.—Accumulation of an inert dust through excess of entry over elimination; resulting in black anthracotic but usually well-aerated lungs without much fibrosis and, in *x*-ray films, *nil* or partial small mottling.

Examples: the anthracosis of coal trimmers and screeners.

Type 4.—Localized dust retention in areas of obstructed lymph flow due to old tuberculous foci or other lesions; resulting in extensive, sharply localized accumulations of dust in fibrotic "india-rubber-like" areas of non-symmetrical distribution, and, in *x*-ray films, "cricket-ball" or "pseudo-neoplasm-like" shadows.

Examples: the fibrotic aggregations of inert dust occasionally present in individual cases in all types of pneumonoconiosis, but especially frequent in silico-anthracotic persons, in coal trimmers, and in screeners.

It will be seen that Types 1 and 2 depend on the inhalation of chemically active dust, alone or mixed with inert particles. In both these types, therefore, there is a liability to the toxic and sclerotic effects of siliceous dust and, in Type 2, the physical effects of accumulation of an inert dust in excessive quantity as well.

It seems to me that insufficient attention is being paid to the conditions which are here included under Type 2; and that the risk to working efficiency and health may be greatly accentuated through the inhalation of finely divided particles, even of a chemically inert dust, when there has occurred the lymph stasis which is known to follow exposure to siliceous dust. The point in the development of silicotic fibrosis at which lymph stasis may occur to a sufficient extent to lead to retention of another type of dust has not yet been determined, but it probably falls far short of what might be expected to produce recognizable silicosis were siliceous dust alone in question. In cases investigated by myself there had occurred a vast and dangerous accumulation of coal dust in lungs of which the total silica in the ash, as determined by chemical analysis, was only about twelve to fourteen times the normal, whereas in advanced cases of silicosis the percentage may be from thirty to fifty times the normal, taking the normal as about 1 per cent.

This risk may be great in the case of persons who, after a period of work in a "hard heading" or in some other job involving exposure to the dust of hard stone, return to work in a normally inert dust, as, for instance, to work as hewers at the coal face. A case of this kind was recorded by me in 1927.

Silicosis and "Miners' Phthisis"

Until recent years the occurrence of any form of silicosis in the coal-mining industry was either denied or ignored, for the simple reason that silicosis was associated, in the minds of medical investigators, with "miners' phthisis," the tuberculous wasting disease which so frequently supervenes as a last phase in the silicotic gold miner or other worker in quartz or quartzite dust, through the toxic and "tuberculophile" action of the products of solution of siliceous particles in the lungs.

It was true in the past, and is still true to a great extent, that coal miners, as a class, exhibit no striking evidence of a marked liability to "miners' phthisis," a liability which is so extremely well marked in the statistical records of other workers exposed to the inhalation of siliceous dust. Coal miners, however, in common with others exposed to siliceous dust, exhibit a great deal of what I have ventured to call "miners' dyspnoea," the stage of silicosis in which the sclerotic and mechanical effects of the disease are often extreme, but, in the case of the collier, with a diminished tendency to pass on into the terminal stage of "miners' phthisis."

Silico-anthracosis

I find the explanation of this relative exemption from terminal phthisis not in the absence of silicosis but in the presence of an added factor, absent or minimal in the typically "silicosis-producing" industries. This added factor I believe to be coal dust, in large quantity and exceedingly fine division, present along with the siliceous dust in and around tuberculous foci. With C. Weatherall (1933) I have shown experimentally the power of coal dust to adsorb the active principle of tuberculin *in vitro*, and it seems probable that a similar adsorption may take place *in vivo* in colliers.

It is dangerous, however, to generalize about an industry which includes such a wide variety of occupations, each with its special liability to, or security from, exposure to stone dust. In the coal-mining industry are included certain tasks, such as "sinking," "boring," and work with compressed-air drills in "hard headings," which are just as dangerous, where the stone happens to be rich in silica, as the work of a metalliferous miner on the Rand. It is among such "stone-drilling" workers that the worst cases of silico-anthracosis arise.

Exposure to Different Dusts

While the great majority of underground workers in the coalfields are engaged in "getting" coal at the face and thus encounter coal dust rather than stone dust in their normal work, they are frequently exposed to fine stone dust in the work of ripping roof or repairing, which often falls to their lot, and, while there is some tendency to specialization, many of them take a turn at work in "hard headings" from time to time; and there is a considerable amount of change from one type of work to another. There is also the stone dust used for "dusting" as a precaution against explosions to be reckoned with; usually an inert shale dust, but sometimes, perhaps, chosen without sufficient regard to its constituents. It is therefore difficult or impossible to draw any sharp line between "hard-heading" workers and other colliers of long service in the industry. Silico-anthracosis, in fact, may occur in all types of colliers exposed to both stone dust and coal dust, but is commonest in those who work with mechanical drills in hard stone.

Work of the screens is probably the safest type of employment in the coalfield, so far as exposure to stone dust is concerned, as it is carried out above ground and the workers breathe coal dust only; but it is staffed either by youngsters just entering the industry and destined

to pass on as soon as possible to the better wages of underground work or by old men who are unfit to go underground and who seek this extremely dusty but otherwise less strenuous job as a favourable alternative to work at the "face." Such workers, engaged in a very dusty occupation but breathing a dust which is, for the most part, inert, might be expected, if pneumonoconiotic, to exemplify, perhaps, in an extreme degree the pure anthracosis depending on excess of inhalation over elimination of coal dust.

In this category, again, there are the "coal trimmers" at the docks, men who work intermittently in distributing the coal in the holds of ships. These men work in an atmosphere charged with dense clouds of fine coal dust almost entirely free from stone particles, and afford, in this respect, a sharp contrast to the "hard-heading" workers, both in the type of dust inhaled, the mineral content of their lungs, and the pathological and histological characters of the highly anthracotic pulmonary tissue found at post-mortem examination.

It may be stated as a generality to which, of course, there are exceptions, that the liability to "miners' dyspnoea" and "miners' phthisis," the frequency of radiological evidence of "lung fibrosis," the presence and extent of nodular and diffuse fibrosis at post-mortem examination, and of a high percentage of total silica in the dried lung on chemical analysis, vary directly with the degree of exposure to stone dust during the life of the individual worker.

The "sinkers," "borers," and "hard-heading" workers, breathing in much stone dust and relatively little coal dust, are liable to exhibit advanced silicosis after a relatively short period of work, and may show a marked tendency to phthisis, just as do metalliferous miners. At the other extreme are the coal trimmers, with little or no risk of silicosis, though it is possible that they may prove to suffer, to some exent, from a form of diffuse lung fibrosis, of "foreign body" type, from excess of anthracotic accumulation. In between come the great body of coal miners whose risk depends upon varying degrees of exposure to stone dust of varying type according to the kind of work undertaken from time to time and the quality of the rock worked in their mine. It is upon this numerous intermediate body of colliers that the statistics relating to coal miners are based. Few now deny the silicosis risk run by "hard-heading" workers in coal mines, but the relative exemption of colliers in general from "miners' phthisis" as evidenced by the absence of a high tuberculosis mortality in late middle-age in the coal-mining industry, has led to the belief that there is no real silicosis in coal miners other than "hard-heading" workers.

It must be stressed, in this connexion, that the effect of silicosis is to produce "miners' dyspnoea," not "miners' phthisis." Silicosis creates a *liability* to "miners' phthisis" by acting as an adjuvant to tuberculous infective processes, but is not, in itself, a form of tuberculosis.

It is my contention that, in the silicosis of coal miners, while the classical state of "miners' dyspnoea" is very marked, and is expressed in the death returns as a high bronchitis mortality, the terminal effect of a high tuberculosis mortality is much diminished through the operation of coal dust as an adsorbent for the toxic products of tuberculous foci in the lungs. It is not suggested that the silicosis of coal miners is unaccompanied by the liability to tuberculosis noted in silicosis elsewhere. What is suggested is that this "tuberculophile" effect is neutralized through the detoxicating effects of the coal dust inhaled, in large quantity, throughout the life of the collier. The studies of Dr. Enid M. Williams on the lung conditions of old and retired coal miners (1933) show clearly that a benign type of tuberculosis is very common amongst the dyspnoeic but far from "phthisical" subjects observed by her.

In the direction of prophylaxis, the point which must be emphasized, first and last, is that the element of serious risk lies in exposure to stone dust, a risk inseparable from coal mining as from all industries which involve the getting of minerals from underground seams in rock containing silica in sufficient quantity and in a dangerous form; a risk which may be greatly diminished by adequate precautions.

Compressed-air Drills

Stone dust is thrown into the atmosphere in the course of compressed-air drilling, after "shot-firing," and in such jobs as repairing, ripping, and other work in stone. While there has been a great improvement in the ventilation and general hygiene of coal mines in the last fifty years, one factor has been added to an ever-increasing extent—the use of compressed-air drills. This must necessarily imply, in the absence of very special precautions, that there is more and finer rock dust in the air.

Tatham, writing in 1902 about the marked liability of colliers in South Wales and Lancashire to non-tuberculous diseases of the lungs, evidenced by a mortality of 76 per cent. more than that of "occupied males" generally, pointed out that these diseases have very considerably increased in fatality since 1881. In the Registrar-General's *Decennial Supplement*, England and Wales, 1921, Part II, Occupational Mortality, etc., it is shown that the mortality from both tuberculous and non-tuberculous respiratory diseases had increased in 1921–3 as compared with 1910–12. It is added that "from causes from which the mortality of miners was especially low in 1910–12, such as phthisis, their advantage is now much less, while causes showing heavy mortality for miners in the earlier period, such as bronchitis at ages over 45, show a still heavier mortality." While the report adds that bronchitis is one of the diseases which have always been a source of high mortality in the areas in question, this does not explain why it should be still higher at a time of general advance in preventive medicine. It is true that the war period had intervened; but this can hardly suffice to explain the difference. To me it suggests itself that the increase may be a further extension of the tendency noted earlier by Tatham, and that the explanation lies in the steady increase in machine drilling of rock which has been taking place since these instruments were introduced into industry during the making of the Simplon Tunnel. E. Williams, writing on this subject, points out that "in the old days—for example, more than twenty years ago, all the boring was done by hand, and this work, in hard quartz rock or sandstone, was slow. At the present time, following the introduction of various patterns of compressed-air drills, the boring is done much more quickly. There is consequently a much greater amount of dust produced in the drilling process." The same author expresses the opinion that the production of silicosis is, in some places, more noticeable among the relatively young than among the old men, as the former have had more stone dust to breathe owing to more modern drills being in use at the present time.

The risk of drilling can be greatly diminished by the use of efficient dust-catching devices, such as the "Hay" and the "Trewill" dust traps now so popular in the South Wales minefield; but there is a need for further research aimed at the provision of dust-free air for the miners working at ripping, repairing, and other jobs in which much dust is produced apart from the use of drills. Careful studies are needed, too, as to the time necessary for the subsidence of the finest, and therefore the most dangerous, dust particles after "shot-firing,"

and for the regulating of the time of return to work accordingly. And it should be added that the new suggestions as to the danger of certain minutely fragmenting fibrous silicates, on which stress has been laid by W. R. Jones (1933), serves to emphasize the importance of a careful scrutiny of the stone dusts so successfully used for "stone dusting" as a precaution against explosions. It may well be that the importance given, in the past, to the presence or absence of "free silica" may have blinded us to the existence of other dangerous elements capable, equally with or in greater degree than free silica itself, of producing silicosis.

PERSISTENCE OF TETANUS ANTITOXIN IN MAN FOLLOWING ACTIVE IMMUNIZATION

BY

P. A. T. SNEATH, M.D., D.P.H.

AND

E. J. KERSLAKE, B.V.Sc.

From the Connaught Laboratories, University of Toronto: Presented by D. T. Fraser, F.R.S.C.

During the past two years we have determined the antitoxin content in the blood serum of a group of adults at various intervals after subcutaneous injections of tetanus toxoid. From the beginning of this study subjects 1 to 16 have been given tetanus toxoid, supplied through the kindness of the Pasteur Institute, Paris, and subjects 17 to 29 have been injected with a similar toxoid, prepared at the Connaught Laboratories, University of Toronto.

Persistence of Antitoxin Two Years after Three Doses of Tetanus Toxoid

Serum was obtained from thirteen persons about two years after the last dose of the primary series of injections of tetanus toxoid. Of twelve persons in whom comparison was possible, as may be noted by Table I, the residual antitoxin showed no evidence of having fallen below that shown twelve to fifteen months after the last dose. Three of the group (subjects 4, 9, and 13) retained at least 0.1 unit of tetanus antitoxin per c.cm. In view of the limitation to accurate interpretation of the tests, the apparent increases in antitoxin titre shown by three of the group (subjects 3, 9, and 20) during the second year cannot be accepted without reserve. If subclinical infection by *Cl. tetani* were a possible explanation of such a delayed antitoxin increase, acting in this instance as a *secondary* stimulus, it is probable, as may be observed later in this paper, that a higher residual titre would be found than is shown here. It is therefore considered that the apparent increase in antitoxin titre over this period is probably not significant.

TABLE I.—*Tetanus Antitoxin Response to the Injection of Tetanus Toxoid*

Subject Number	Following Primary Series			Following Fourth Dose	
	Maximum Response	After 12-15 Months	After 2 Years	After 1 Week	After 1 Month
	Units per c.cm. of Serum				
1	0.1	0.01	0.01	5.0	2.5
3	>0.1	>0.01 <0.01	0.025	1.25	2.5
4	>0.1 <0.5	>0.1 <1.0	0.25	5.0	—
7	>0.1	—	0.05	>5.0 <10.0	>5.0 <10.0
9	>0.1	>0.01 <0.1	0.1	2.5	2.5
10	0.25	0.01	0.01	>0.1 <0.5	>5.0
13	>0.25 <0.5	>0.01 <0.1	>0.125 <0.25	—	—
15	0.1	>0.01 <0.1	0.05	5.0	10.0
18	>0.1 <0.25	>0.01 <0.1	0.025	2.5	>2.5 <5.0
20	0.01	>0.001 <0.01	>0.01 <0.05	>1.25 <2.5	>1.25 <2.5
21	0.003	<0.001	<0.001	0.01	0.025
25	>0.01 <0.1	>0.01 <0.25	0.025	1.25	>1.0 <2.5
29	0.25	>0.01 <0.1	0.025	5.0	>2.5 <5.0

The symbols > and < represent "more than" and "less than" respectively

Antitoxin Response to Reinjection of Tetanus Toxoid after Two Years' Interval

A fourth dose of toxoid was given to the same group of twelve persons who had been given an initial series of three doses two years previously, and serum was obtained at intervals of a week and a month thereafter. Within a week an increase in antitoxin titre occurred in the order of ten to five hundred times more than the residual level shown two years after the primary series. After a month five (subjects 3, 10, 15, 18, and 21) showed a further increase in antitoxin titre, four showed no appreciable change, two showed a definite fall, and one serum was not tested. The most striking feature of the response is the fact that eleven persons developed tetanus antitoxin in amounts of between 0.1 and 10 units per c.cm. Subject 21, whose titre did not rise above 0.025 unit, has shown a poor antitoxin response throughout. Nevertheless, the increase shown here is similar in trend to that of the other members of the group. The rapid increase of antitoxin titre and the fact that after a month the antitoxin level so induced does not rapidly fall confirm our previously recorded observations.

Persistence of Antitoxin One Year after Reinjection of Tetanus Toxoid

A fourth subcutaneous dose of 1 c.cm. of tetanus toxoid given to fourteen persons about a year after a primary series of three doses has been shown to occasion a rapid increase of antitoxin within a week, thirteen of the group attaining or exceeding an antitoxin titre of 0.1 to 0.25 unit per c.cm., which level was maintained after a month.[1] A year later the sera of ten of this group (Table II) were available. One (subject 5) had retained approximately the same antitoxin titre as was found a month after the fourth dose, whereas in the others the titre had definitely fallen. Nine persons retained antitoxin in amounts varying from 0.1 to 0.75 unit per c.cm., these residual levels in general being substantially in excess of those found a year after the initial doses.

Comment

It is recognized that the development of antitoxin and an immunity to diphtheria may follow subclinical infection with the diphtheria bacillus. Should the presence of *Cl. tetani* in the human digestive tract as shown by Bauer[2] be capable of inducing a similar immunity to tetanus in men as has been shown by Tenbroeck[3] in experimental animals, it would be expected that active immunity so acquired might be indicated by the presence of measureable amounts of antitoxin in the serum. There is no convincing evidence in the sera of sixty-five normal adults which have been investigated that would indicate the prevalence of this type of immunity in Toronto. However, it is possible to induce the development of tetanus antitoxin by the subcutaneous injection of tetanus toxoid, but as yet it is not possible to state definitely at what level this antitoxin must be maintained in the blood stream to confer immunity upon human beings.

The level of 0.1 to 0.25 unit per c.cm. of serum has thus been arbitrarily chosen as a criterion, because it represents, in our experience, the maximum antitoxin level reached in the blood serum of persons who were injected with 1,500 American units of tetanus antitoxin.[4] Although this may be in excess of the level necessary to protect man from the development of clinical tetanus, we are as yet unable to suggest a standard of any greater merit. An initial series of three doses of tetanus toxoid has been shown to induce the development of tetanus antitoxin to the level of at least 0.1 unit per c.cm. in twenty-eight of a group of twenty-nine persons.[5] Twelve to fifteen months later only three of these retained antitoxin at that level. Two years after the initial doses the sera of thirteen of these persons showed no evidence of a further loss in antitoxin titre, three retaining a level of 0.1 unit per c.cm. or more. This indicates that in general the fall in level is most rapid during the first twelve to fifteen months after the last dose of toxoid, following which the rate of loss in antitoxin titre is apparently much less.

It has been possible to show a marked response to the so-called *secondary* stimulus with tetanus toxoid in a group of fourteen persons a year after the initial series of doses.[1] A similar type of response is to be observed in this report when, with an interval of two years between the earlier series of doses and the further injection of a single dose of toxoid, much higher antitoxin levels are found within a week than were observed at any other previous period. Furthermore, this state persists for at least a month. Within a week of the last dose of toxoid the antitoxin titres of the twelve persons concerned were as follows: five showed 5 or more units per c.cm.; two showed 2.5 units; three at least 1 unit; one >0.1< 0.5 unit; and one 0.01 unit per c.cm. of serum. Of the eleven sera available after an interval of a month the titre had fallen in two, four remained stationary, and the other five showed a further increase. However, of the twenty-six persons submitted to a *secondary* stimulus by 1 c.cm. of toxoid, two failed to develop tetanus antitoxin to a level of 0.1 unit per c.cm., although both of these did show a rapid increase in titre after the last injection.

Having thus shown the possibility of increasing the titre of tetanus antitoxin, it remains to observe to what extent these higher levels will persist. Ten persons (Table II) whose serum was obtained a year after the *secondary* stimulus showed a general fall in the residual antitoxin level, only one of whom failed to retain 0.1 unit (subject 16). The lowest residual level in this particular instance was approximately that shown about a year after the primary series, whereas the other eight persons for whom comparison was possible all showed a resting antitoxin titre definitely in excess of the previously determined levels.

TABLE II.—*Tetanus Antitoxin Response to the Injection of Tetanus Toxoid*

Subject Number	Following Primary Series		Following Fourth Dose		
	Maximum Response	After 12–15 Months	After 1 Week	After 1 Month	After 1 Year
	Units per c.cm. of serum				
2	0.5	>0.1 <0.5	>5.0	5.0	0.75
5	>0.001 <0.1	0.01	>0.1	>0.1 <1.0	0.5
6	0.25	>0.01 <0.1	>0.5	1.0	0.5
8	>0.1 <0.5	>0.01 <0.1	>2.5 <5.0	>2.5 <5.0	0.5
11	>0.1 <0.5	>0.01 <0.1	>2.5 <5.0	2.5	0.25
12	>0.1 <0.5	*	5.0	>1.0 <5.0	0.25
14	0.1	>0.001 <0.1	>1.0	1.0	0.25
16	>0.01 <0.1	>0.01 <0.1	0.5	>0.5 <1.0	0.075
17	>1.0 <5.0	>0.1 <0.25	2.5	>1.0 <2.5	0.5
19	>0.1 <0.25	>0.01 <0.1	>2.5 <5.0	>1.0 <2.5	>0.1 <0.5

* Container broken.

In view of these further observations, we believe there is confirmatory evidence of the definite value of a primary series of tetanus toxoid injections when followed a year or two later by a *secondary* stimulus. Although the initial doses may be sufficient to ensure such a rapid antitoxin response as has been shown to occur, until a more accurate clinically protective standard is established than that conferred by the prophylactic dose of tetanus antitoxin it would seem desirable to maintain the titre of antitoxin in human serum at a minimum level of 0.1 unit per c.cm.

Summary

In a group of twelve persons the tetanus antitoxin level persisting two years after a primary series of three doses of tetanus toxoid has not fallen appreciably during the past year. A *secondary* stimulus of 1 c.cm. of toxoid given to these persons within a week effected a definite increase in titre, which persisted at significantly high levels after a month. Antitoxin titres similarly attained in a previous group are shown to persist after a year at or above the level of 0.1 unit per c.cm. of serum in nine of the total group of ten persons.

We wish to acknowledge our indebtedness to Drs. N. E. McKinnon and D. W. G. Cameron, as well as to Mr. M. Risebrough, for their co-operation in this work.

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Dr. A. Kissmeyer, writing in the Danish journal *Hospitalstidende* of May 31st, traces the response of venereal disease to treatment and public health measures in Denmark during the past fifty years. From 1885 to 1917 there was a steady rise in the notifications of both syphilis and gonorrhoea. A pronounced rise in 1918-19 has since been followed by a steady decline, which has resulted in the incidence of venereal disease at the present time being reduced to that of 1910. A comparison of Copenhagen with the rest of Denmark brought out the instructive fact that the former is making much more rapid progress than the latter. Between 1919 and 1933 the number of annual notifications of syphilis has fallen from 3,000 to 200. The corresponding fall in the rest of the country is from 1,400 to 400. The number of cases of congenital syphilis notified in Copenhagen between 1920 and 1933 has declined from 124 to 12, whereas in the rest of the country the decline has been only from 112 to 60. As for gonorrhoea, it is actually on the increase outside Copenhagen. The author notes that these figures upset the common belief that venereal disease is an urban rather than a country problem; and he suggests that the remarkable progress observed in Copenhagen should be traced to the efficiency of organization and treatment by whole-time specialists. In the country districts, on the other hand, gonorrhoea is increasing and syphilis is not declining as rapidly as it might because the provisions for their treatment are comparatively fortuitous.

USE OF POULTON'S OXYGEN TENT IN BRONCHOPNEUMONIA COMPLICATING WHOOPING-COUGH

BY

ALEXANDER JOE, D.S.C., M.D.

MEDICAL SUPERINTENDENT, NORTH-WESTERN HOSPITAL, L.C.C. INFECTIOUS HOSPITALS SERVICE

AND

J. S. WESTWATER, M.D., D.P.H.

SENIOR ASSISTANT MEDICAL OFFICER TO THE HOSPITAL

Bronchopneumonia as a complication of whooping-cough invariably carries a grave prognosis, and any method of treatment which can improve the outlook is to be welcomed. The following case therefore seems worthy of record, as it indicates that the oxygen tent can increase the expectation of recovery. It also illustrates the successful use of the tent in a young patient suffering from an illness which itself is liable to present many nursing difficulties.

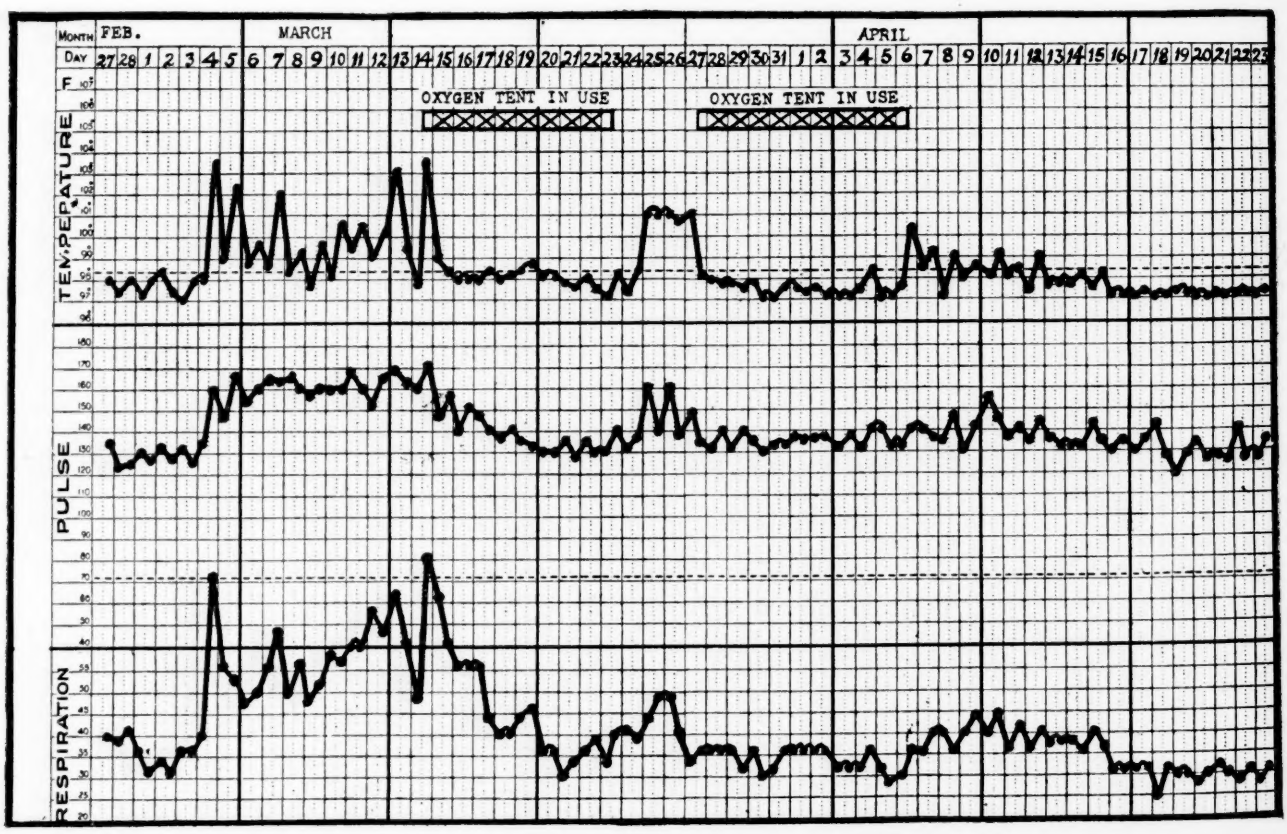
Case Record

A well-nourished boy of 16 months was admitted to the North-Western Hospital on February 27th, 1935, suffering from whooping-cough. Six weeks previously he had had his first illness, an attack of bronchitis, for which he had been under treatment in a general hospital; in convalescence he developed a spasmodic cough, and was heard to whoop for the first time on February 26th.

On admission the child was found to have a few crepitations at the base of each lung, indicative of some bronchitis, but there was no fever, dyspnoea, or cyanosis. Typical spasms of coughing were occurring about eight to twelve times in the day, followed by a whoop and occasionally terminating in vomiting. On March 4th, five days after admission, the onset of a bronchopneumonia was heralded by a sharp evening rise of temperature to 103° F. and of respirations to 78. The next day there were numerous fine crepitations at both bases, and signs of partial consolidation over the lower lobe of the left lung. Thereafter the child continued acutely ill, with a swinging temperature, but with a tendency to lysis accompanied by some clinical improvements. On March 10th, however, the temperature began to rise again, and this was associated with the appearance of signs of consolidation at the base of the right lung. From this point the child grew steadily worse, with increasing dyspnoea and cyanosis. With the onset of the pneumonia the whoop had ceased, but exhausting spasms continued, although to some extent controlled by sedatives. By the evening of March 14th, eleven days from the onset, the child was limp, exhausted, with a temperature of 103°, pulse 170, and respirations 88 and very shallow. In addition to the signs of consolidation at each base crepitations were generalized throughout the lungs.

In our opinion the prognosis had now become hopeless, and the patient could not have been expected to survive another forty-eight hours. In this phase of the illness the child was placed in an oxygen tent of the type described by Dr. E. P. Poulton, and kindly lent to us by him. The effect was immediate and striking. Cyanosis was rapidly relieved, and during the night the child had fair periods of sleep. Next day the temperature was normal, and was accompanied by an improvement in the clinical condition. From being listless and apathetic the patient became alert and interested in his surroundings, even attempting to play with the various "gadgets" inside the tent. The temperature remained normal, the pulse and respiration rates falling gradually. There was a rapid diminution in the moist sounds in the lungs, the signs of consolidation, however, persisting at each base. At first the spasms of coughing became more frequent and severe, but soon improved, becoming less distressing and slightly less frequent.

After ten days the child had improved to such a degree that the use of the tent was no longer considered necessary, the physical signs in the lungs indicating resolution at the right base but still some residual consolidation of the lower left lobe, the pulse steady at 130, and the respirations ranging from 30 to 40. Accordingly, on the afternoon of March 23rd, the child was removed from the tent. There was no immediate reaction and no return of cyanosis, although the evening temperature rose to 99° and there was some increase in the respirations. The child was quite comfortable in the subsequent twenty-four hours. The next night, however, he whooped and



vomited copiously, and the temperature rose to 104°, pulse 168, respirations 58. This marked the onset of a serious relapse. By the following day there were signs of complete consolidation again at the left base, and numerous moist sounds were present in both lungs. The temperature continued at 101°, pulse 140 to 160, respirations 40 to 50. On March 27th, the third day of this relapse, there being no improvement, the child was returned to the oxygen tent. As before, an immediate effect was obtained. The temperature was normal in twenty-four hours with a corresponding drop in the pulse and respirations. As on the first occasion, there was a rapid clearing of the moist sounds in the chest. The tenant himself was quickly "at home" again in the tent, and manifestly improved. The spasms of coughing continued as before, unaccompanied by whooping or vomiting.

After a second spell of ten days in the tent the consolidation at the left base had resolved, and on April 6th the use of the tent was finally discontinued. As the chart shows, this was followed by a slight reaction, the child running an evening temperature of 99°, with some increase in the respirations for the next week. The spasms of coughing, although no more frequent, became more severe, being accompanied by a whoop and sometimes by vomiting, but they quickly subsided, and after a fortnight had dropped from an average of eight to twelve to some three to five daily. Coarse crepitations persisted at the base of the right lung for a month after leaving the tent. Convalescence thereafter was straightforward. Whooping ceased on May 23rd, and the child was finally discharged on June 5th without symptoms or residual physical signs in the lungs.

Commentary

The above case, we suggest, illustrates in no uncertain manner the value of the oxygen tent in whooping-cough bronchopneumonia, and no other therapeutic measure in our experience has produced a comparable effect in a case of this apparent severity. That the result was due to the oxygen tent can hardly be doubted; but having a fair experience of this condition and the many unexpected results, disappointing or favourable, which are to be encountered, we are unwilling to presume that similar benefit will be obtained in all cases. A case of whooping-cough in such a young child imposes a severe test on the practicability of the method, and serious nursing difficulties might have been anticipated. Such as did arise were successfully surmounted, and at no time did the child show the least discomfort or intolerance of the apparatus. During the first spell in the tent the child was removed at four-hourly intervals for treatment, and in addition, when spasms of coughing were severe, the nurse had to open the tent at times to support the child. Despite this an oxygen tension of 30 to 40 per cent. was maintained, and in the second period, when the tent only required to be opened at four-hourly intervals, a percentage of 40 to 50 was easily kept up.

The effect of the oxygen on the spasms is also of some interest. As long as the patient was in the tent whooping and vomiting did not occur and the spasms tended to diminish in frequency, whereas on both occasions when he was removed from the tent whooping and vomiting immediately recurred, with a slight increase in the frequency of the spasms.

We wish to take this opportunity of thanking Dr. E. P. Poulton for kindly granting us the loan of the tent and instructing the nursing staff in its use.

The first number has appeared of *Speech*, the quarterly journal of the British Society of Speech Therapists. The publishers are Sir Isaac Pitman and Sons Ltd., Parker Street, W.C.2, and the price is 2s. 6d. While it is the wish of the society to include in its journal technical articles on speech defects and disorders by members of the medical profession, psychologists, physicists, and other specialists, it will also publish papers of a more simple nature likely to be of interest to teachers and parents.

COMMENTS UPON A CASE OF "PERIVENTRICULAR EPILEPSY"

BY

T. M. DAVIE, *M.C.*, M.D., PH.D.

MEDICAL SUPERINTENDENT, EAST RIDING MENTAL HOSPITAL, BEVERLEY

I have to thank numerous unnamed friends for providing me with the clinical data for this dissertation. My task has been rather of the nature of a retrospective adjustment of parts of a puzzle in order to make a composite whole.

I wish to preface the account of this case with a few observations on the terminological inconsistencies which one encounters in the literature on epilepsy.

Terminology

The term "epilepsy" has two distinct usages. It may indicate a disease of unknown origin, or it may merely describe a syndrome. In the former instance, the term is the equivalent of what is known as idiopathic, true or essential epilepsy. In the latter, the significance is wider, and embraces all conditions whose outward manifestations are similar to or even identical with those encountered in the genuine malady. The former is an explanatory term, even although no explanation of the symptoms is known: the latter is a descriptive epithet. The first-mentioned usage is current in popular speech and is also met with in medical literature, but the scientifically minded neurologist who approaches the study of these states from the point of view of the physiologist prefers to confine the connotation of the term to the syndrome itself. He therefore speaks of epilepsy produced, let us say, by encephalitis or by heart-block, by cerebral cysticercosis, insulin hypoglycaemia, and so on. In general medicine this habit is not prevalent. One speaks rather of symptomatic epilepsy only until the cause is ascertained; and if and when it is, one ceases to call the syndrome epileptic at all, preferring rather to describe the state by the name of the pathological condition which has given rise to the convulsions.

Is it sacrilegious, I wonder, to suggest that the term "epileptiform" should be freed from its traditional usage as synonymous with Jacksonian epilepsy and employed in the sense of "not necessarily of idiopathic variety"? Admittedly much of the prevalent confusion is due to the fact that it is so frequently used in that sense. If the suggestion is not acceptable, perhaps some synonym for "symptomatic epilepsy" could be found. The term "epileptoid" has too narrow a significance.

To illustrate the contradictory senses in which the word epilepsy is employed, I may quote from an address on "Fits and Faints" by Dr. G. A. Sutherland.[1]

> "A difficulty often arises in the diagnosis of an attack of sudden loss of consciousness as to whether it was primarily cerebral, that is to say, of an epileptic nature, or primarily circulatory, that is to say, a faint or fainting attack."

This author would apparently exclude from the epileptic category an attack occasioned by a circulatory disturbance; but not so the aforesaid schematically minded neurologist, whose choice of nomenclature is unaffected by the aetiology of the syndrome. Such terminological misunderstanding has to some extent been mitigated by the use of the plural term. In order to stress the clinical polymorphism of epileptic phenomena, Kinnier Wilson prefers to speak of "the epilepsies." Advantageous as this is for schematic purposes, the age-long associations of the word still abide.

Amongst other "epilepsies," Kinnier Wilson has distinguished a special group characterized by the localization of the disorder in neurosympathetic centres to the relative exclusion of sensorimotor phenomena of somatic type. This group he has styled "periventricular epilepsy."[2] The fits are infracortical, and symptoms of an affective and viscero-sensorimotor kind predominate. Included in this category are the well-known vasovagal attacks. In addition to the classical features of this syndrome a persistent low body temperature and the occurrence of uncinate auras (for example, an unpleasant taste accompanied by a strong sense of familiarity) are described.

These features occurred in the case about to be described, though the uncinate aura was noticeable only in the earlier stages.

Where facts allow of alternative hypotheses, much dialectical ingenuity can be exercised in arguing the case for different aetiologies. Are the symptoms necessarily indicative of some definite lesion or is there merely a physiological disturbance functionally conditioned? Is the origin of this disturbance central—that is, cerebral—or is it peripheral? Are the psychological features to be ascribed to the presence of such lesion or derangement, or might they even constitute the *fons et origo* of the whole syndrome?

In the following pages I have attempted to give an account of the malady as accurately as possible from both the objective and subjective points of view, and have essayed to correlate these findings. The psychological aspects of the case have also received attention.

Previous History of Patient

The patient is a medical man, 45 years of age, married, with four young healthy children.

Family history throws no light on present illness. No mental, epileptic, or "nervous" history. Father died, aged 67, of prostatic carcinoma, mother aged 80 of cerebral haemorrhage. Elder brother, who suffered a good deal in his youth from asthma, and an elder sister, both healthy.

PERSONAL HISTORY

Scarlet fever in childhood. Operation for suppurating appendix when aged 18, and a subsequent operation for removal of adhesions two years later. War service as regimental M.O., 1914–18. Severely wounded March, 1918. The head wound was not serious, the bullet merely grooving the skull in its swift passage through the helmet, but the wound of the right hip proved serious, the bullet having penetrated and fractured the acetabulum. The condition was undiagnosed for four months, during which time the constant raising in bed drove the femur head through the shattered acetabulum, thus causing an eventual shortening and adduction of the limb. The sepsis had been aggravated by the leaving of two rubber drainage tubes in the wound. When the presence of these was later recognized by *x* rays the suspicion of there being two tubes did not arise, so one only was removed, until a further examination revealed the presence of the other, and by this time a thorough curetting of the femur neck had to be carried out. The ankylosis of the femur head with a fragile neck beneath it portended danger in the event of a fall, and this occurred a year after the wound had healed, and resulted in a fracture of the femur neck. A satisfactory fibrous union was obtained, there being no recurrence of any discharge from the wound.

I have thought it better to state these particulars in detail, not that there would seem to be any connexion between the wound infection and the illness which began eleven years later, though it is interesting to note that an accidental fall in 1927 brought about a transitory rigor and pyrexia.

Present Illness

One Sunday morning in November, 1932, the patient was sitting with a doctor friend with whom a few moments earlier he had been examining a case of general paralysis. His friend had made some observation, and, hearing no comment on it, looked across to find our patient extremely pale and apparently unconscious. His jaw was moving slowly up and down, and while still apparently unconscious, he remarked, "That was a nasty taste." A moment later the telephone bell rang, which sufficed to make him respond automatically. The inquiry was about the very case they had been discussing. Our patient's consciousness was not sufficiently restored to enable him to answer without first inquiring particulars of his friend.

One would have thought that he would feel some anxiety on being told of his attack, especially as he could not fail to be aware of its possible significance, but he made light of it and apparently never gave it a thought. He tells me now that he is surprised at this, and can only account for such an attitude by an unconscious refusal to face the facts of what might prove a serious situation—in other words, by a repression. Such repression can, I suppose, occur in response to some sudden organic mischief as to a psychological situation.

This first attack is the only one which is not known to have been preceded by similar attacks during sleep, but it may well have been so—the nocturnal attacks having passed unobserved. Since that date, attacks have occurred at approximately three-weekly intervals. The series commences during sleep, an attack occurring each hour, three or four nocturnal attacks in all being the usual number. During the first two years of the illness the attacks continued after waking, say a further three or four; but latterly the diurnal ones have not occurred, and the nocturnal ones have become less pronounced in character.

The nocturnal attacks begin as a rule about 3 or 4 a.m. The patient is a sound sleeper, but his wife is awakened by the sound of deep expirations, accompanied by sounds of swallowing and by movements of the jaw. The pulse is weak. Then the breathing becomes quiet, face pallid and damp with perspiration. Gradually, in a minute or two, breathing, pulse, and colour become normal, and sleep consciousness is restored. The order of events may vary. On one occasion jaw movements indicated the commencement of the attack, and these were followed by deep respirations, then sucking movements, pallor next, and finally feebleness of the pulse. In one attack it was noticed that though the pulses at the wrists were very weak, both temporal arteries were pulsating strongly. On several occasions there was polyuria later when the patient woke up. There never has been any vomiting or sphincter relaxation.

It is only on these days that further attacks have occurred in the waking state. These have their own characteristics. The patient is aware of an impending loss of consciousness which he cannot avert. Once or twice a vague sense of reminiscence, as of the war, has accompanied this. The next thing he is aware of is his return to consciousness. In the meantime there has been pallor, weakness of the pulse, and on most occasions movement of the jaw and lips.

The loss of consciousness in many instances was not absolute and may never have been so. Rather it was a state of altered consciousness like a trance. On one occasion the patient said, "This is extraordinary, but I shall be all right in a minute." He had no recollection of this. He has carried out automatic actions with precision or has remained standing, or if sitting has continued to hold his book or pen in his hand until full consciousness was restored. He has never fallen. Never has there been any complaint of headache.

An attack just a year after the commencement of his illness is described by a nurse in the hospital where the patient had gone for investigation, as follows:

> "Patient was apprehensive, and said he thought he might have an attack. Immediately there followed heavy expiration through the mouth, and sucking of the cheeks and lips—patient apparently unconscious. The chin then moved up and down four or five times. Then the patient said, 'It is all right. I'm not going to have an attack,' and appeared very apprehensive. Pulse 160. Pallor became marked. Pulse dropped to 80. Breathing natural. Unconsciousness lasted another three or four minutes, but the patient talked a certain amount during the attack."

An attack which occurred during sleep a year after the one which has just been described is worthy of mention, inasmuch as during it the eyes were open and were seen to be moving slowly from side to side.

Heightening of the olfactory sense has been in evidence from time to time on the mornings of the attacks. The patient has remarked on the pungency of the odour of coffee, etc., at breakfast time. There was nothing hallucinatory in these perceptions.

Clinical Findings

Patient is of sturdy build, robust, but incapacitated to some extent by his lameness. Height: 5 feet 6 inches. Weight: 11 st. 6 lb. Temperature consistently subnormal, 96°. Central nervous system: no evidence of any

lesion. Radiograms of skull and brain negative; optic disks and visual fields normal. Cerebro-spinal fluid: negative Wassermann; Lange curve 0001111000. Circulatory system: blood pressure normal; heart sound in every respect; electrocardiogram—"nothing of significance." Alimentary system: nothing to note. *X*-rays showed no gall-stones. Blood picture normal, and blood Wassermann negative. Urine normal in the intervening weeks, but just prior to attacks showed presence of sugar and a trace of acetone.

In view of these findings it was thought best to search for a septic focus. The antra and sinuses were healthy, but the tonsils obviously diseased. These were removed six months after the commencement of the illness, and in one tonsil there was an abscess containing about a teaspoonful of pus. The eradication of this sepsis did not bring about any change in the number or nature of the attacks: but it is interesting to note that since then the auras of taste and smell have disappeared. Perhaps these discernments were not hallucinatory, but actual perceptions due to the sinking-in of consciousness. The "nasty taste" may well have been of tonsillar origin, and an "odour of apples" once remarked on, the perception of acetone in the breath. At such times there has certainly been acuity of the senses.

Six months later—that is, a year from the commencement of the illness—a fuller investigation was made of the state of the blood sugar.

Two days previous to an attack the glucose tolerance test was: fasting 0.172, 1/2 hour 0.204, 1 hour 0.213, 1½ hours 0.249. On the day of the attacks, half an hour after one of them, the blood sugar was 0.21, sugar in the urine +++, acetone +. During three successive days midway between the attack groups the blood sugar percentages were normal. Blood sugar estimations were made during the next group of attacks, and are of interest. Immediately after an attack at 6 a.m. the blood sugar was 0.166 per cent., and immediately after the next attack at 7.40 a.m. the blood sugar percentage was 0.132. A few weeks later, on the afternoon of the day when attacks had occurred and ceased, the blood sugar was reduced by insulin (25 units) to 0.037 without producing loss of consciousness or convulsions, or, indeed, any noticeable effect, nor at this time was there any evidence of hyperadrenalaemia, but whether such had existed earlier in the day was not ascertained.

The examination of the cerebro-spinal fluid at this time gave the following results: protein increased, but not estimated; chlorides 0.702, sugar 0.06, urea 35 mg. per 100 c.cm.

Blood urea was 41 mg. per 100 c.cm., the blood cholesterol 143 mg. per 100 c.cm. Normal blood picture, and culture sterile.

The illness would seem to have reached its zenith about this date—a year from its commencement. Progress has been gradual since then. Urine samples have shown a progressive diminution in the amount of sugar, and eighteen months from the beginning the presence of sugar has not been detected. *Pari passu* with this improvement has been a greater clarity of consciousness. Formerly, the attacks left the patient clouded to a slight extent, amnesic with regard to recent happenings and with an air of self-absorption; but this state, similar to what is found in cases of mild toxicosis, gradually yielded to one of normality, the patient now being instantly alert after the attacks, the attacks themselves having diminished in severity and no pathological constituents being found in the urine.

Discussion

Whether there be an organic origin for this syndrome, or whether it had resulted from some physiological dysfunctioning, there was certainly a psychological situation existing either on its own accord or produced by the concomitant bodily disturbances. Whilst the patient exhibited no fear of the recurrence of his attacks nor even now had admitted having experienced such, fear was evident enough just as he was about to lose consciousness, and even during some of the attacks. Moreover, the reaction to the first attack of all was peculiar, inasmuch as he went about his business quite cheerfully as though there had been nothing amiss. It is interesting to note that the recounting of an attack would sometimes induce one. This, of course, occurred only on the day when attacks had already taken place and the patient was therefore especially susceptible.

Anxiety of mind occasioned by the symptoms and the subsequent prostration tend to keep the patient in an unduly receptive state and prone to further attacks. Irrespective, therefore, of what the diagnosis might be, it was thought wise to do everything possible to lessen the psychological tension. This was apparently at its zenith about a year after the commencement, when the blood sugar was so high. Admittedly sugar metabolism is controlled and affected by metabolic centres in the hypothalamus, but it is a question whether these findings may not have been due, in part at any rate, to the state of emotional tension. The fact that the relaxation of this tension and sharper clarity of consciousness following the attacks have coincided with the diminution of the physical signs does not bring us any nearer the ultimate causation.

One may set aside idiopathic epilepsy—the age of the patient makes this unlikely; and the apprehensiveness during the attacks, their departure from the classical variety, and the blood sugar findings would seem to contradict such a hypothesis. As to the possible causes, these would seem to be: if organic, then central or peripheral. There is no evidence of any definite peripheral disturbance—for example, hepatic, suprarenal, or pancreatic disorder. Of central lesions, there was no clinical evidence of cerebral tumour, the likeliest lesion being either a patch of previous encephalitis in the neighbourhood of the floor of the third ventricle or some cicatricial process, the result of the head wound. As to the former, a history of previous encephalitis is non-existent, but that is no uncommon happening. As to the latter hypothesis, one would regard such hypothetical cicatricial process as the result of the skull wound fourteen years previously. That seems an unduly long interval. Indeed, one hesitates to accept a diagnosis of organic mischief in the brain.

The syndrome is similar to what has been described by Kinnier Wilson as "periventricular epilepsy," but we have shown that in this case the "uncinate aura" did not persist. Periventricular epilepsy is not idiopathic epilepsy, but from the view-point of the symptomatologist the syndrome is regarded as one of the many epileptic variants. Could the attacks be accounted for by a ketosis?

A temporary state of acidosis did in fact exist, but the attacks persisted after the blood sugar had become normal, and acetone had disappeared from the urine. The acidosis, indeed, may be regarded as one of the several symptoms, not as a cause.

Could the whole process have been initiated by tonsillar sepsis occurring in a subject especially susceptible to such infection as the result of sepsis from his wounds, and by a conditioned reflex have produced an anxiety state reminiscent of the actual incident of being wounded? This wound was received during the March retreat in 1918. Our patient then would be in a state of heightened emotional tension, and now it appears that, owing to the severity of the wound, he did at that time lose consciousness.

The reliving of such episodes in states of altered consciousness is not uncommon, but experience shows that a neurosis of this type has deeper roots than mere war experiences, no matter how terrifying. Suppose the condition to be a neurosis, could it be an anxiety neurosis in the Freudian sense, the *direct somatic* consequence of disturbed sexuality? As is well known, Freud has traced the origin of the three "actual neuroses"—neurasthenia, anxiety neurosis, and hypochondria—to disturbances of the sexual life of which they are the direct somatic consequences—that is to say, they have no psychological "meaning." He also reminds us that the symptom of the actual neurosis frequently becomes the nucleus of a psychoneurotic illness. Freud has modified his original hypothesis in some respects, but still apparently concedes the possibility of unexpended libido being directly transformed into anxiety; and if such a factor operated in this particular instance, one would presume that libido which had become unusable because of endocrinal alterations had

been converted into physical symptoms through the intermediary of the autonomic nervous system. The effect that was manifested was fear, and "in the biological depths of the psyche," as Kretschmer reminds us, "archaic phylogenetic anastomoses exist between sex, excitement, and fear."[3]

There are surprisingly few histories which do not afford the requisite data for the production of an actual neurosis, and yet no actual neurosis develops. Even although in this particular instance there had been sexual somatic disturbances, such would not explain the character and severity of the syndrome. Obviously it was outside the category of an anxiety neurosis, whether that was a component factor or no. Was it, then, of psychological genesis, the physiological expression of psychological repression? A psychological process can, of course, seize upon a symptom supplied by reality, and an actual neurosis can well become the nucleus of a psychoneurotic system.

If one were to assume a toxic origin for the symptoms, such would not preclude the operation of psychological factors. The toxicity apparently acts by lowering the threshold for such. There is, as it were, a psychological situation in solution, and by reason of infection or toxaemia it becomes crystallized out. That at any rate has been my experience with cases suffering from acute toxic confusion. Such cases are the outcome of some definite bodily illness.

In a case recently seen by me measles was the illness. The patient's temperature was 106°. She was restless and delirious. Psychological elements gradually shone through and ultimately dominated the situation. These eventually faded, Nature reasserting herself in conditions which promoted recovery, and their dispersal was helped by psychotherapeutic measures too. The psychological situation, however, would never have risen, it would have remained in a state of repression but for the severity of the toxic process which had instigated the whole affair.

Whether a similar mechanism was in operation here we cannot say. For practical purposes one may neglect the somatic side and concentrate upon the psychological.

If the syndrome be psychological its origin is in repressed affect, and the repression of such affect is the result of a deep self-estrangement. The unconscious conscience does not approve of what the conscious conscience would condone. The ego is afraid of the libido. There are elements unassimilable by consciousness. Such elements must be incorporated into consciousness. Only thus can the threat to consciousness be extinguished and the energy value of the complex be depleted. This short summary of the imagined psychological impasse does not conform strictly with the terminology of any one psychological school. It is, however, understandable. The ego's fear of the libido is a Freudian phrase. Freud does not avail himself of the concept of the complex. It is a word which does not fit into his schemata, but is none the less intelligible to us on that account. The localization of the trouble to the region of the hypothalamus is on this hypothesis to be explained by the fact that *there* is the mechanism whereby emotional tensions declare themselves.

It is true that toxins from extraneous sources can affect the body and bring about emotional disturbances. It is equally true that emotions can engender a toxaemia. Endocrinal derangements may also occasion or result from unexpended and unexpendable affect.

Dream Analysis

Dream analysis is associated in our minds with the investigation and treatment of psychoneurotic states. Not all the patients who are classed as neurotics do in fact suffer from neurosis. Many of them later prove to have had obscure organic diseases. Every physician can recall numerous instances. I remember a woman who was regarded as a typical hypochondriac, for ever complaining of pain in her back, turn out to be a case of carcinoma of the vertebrae, the presence of which was first suspected by the discovery of a xanthochromia in the cerebro-spinal fluid. The condition had not been revealed by *x* rays.

Psychotherapists encounter such cases and are sometimes able, from the psychological approach alone, to state definitely that they are not primarily psychological cases at all. There is an instance quoted by Freud of a patient sent to him for treatment whom he promptly sent away for further physical examination, and in whom an antral suppuration was discovered. I do not recollect that Freud has diagnosed organic maladies by dream analysis, but readers of Jung will recall instances of this. In *Modern Man in Search of a Soul* he records the case of a young woman sent to him as presumably a hysteric. The symbolism of her dreams, however, was interpreted by him as evidence of the presence of an organic malady, which later declared itself as progressive muscular atrophy.

No one can dispute the theoretical possibility of arriving at such a diagnosis by such means. In certain dreams it may be quite unnecessary to obtain the dreamer's associated thoughts. The symbolism may be of such a kind as to permit of immediate translation. Doubtless this cannot be achieved except on rare occasions and by the most practised exponents of dream interpretation, and one need not be surprised at an attitude of scepticism towards such claims. It has been suggested that the diagnosis of such cases by Jung is the outcome of his intuition. There are numerous instances of experienced physicians having arrived at their conclusions intuitively out of a vast wealth of clinical experience. Jung, however, seems to reach his conclusions solely by symbol interpretation.

In view of the obscurity of the aetiology of this case under discussion, it was thought unwise to neglect the opportunity of dream investigation. A dream of our patient in October, 1933, reads as follows:

"Someone beside me kept on asking me something about oiling some machinery. Milk was suggested as the best lubricant. Apparently I thought that oozy slime was preferable. Then a pond was drained, and amid the slime there were two extinct animals. One was a minute mastodon. I forgot what the other one was."

The symbolism here would seem to be evident enough, indicating the conflict between two opposing tendencies: on the one hand a spiritual orientation is suggested, the maternal principle being invoked, and on the other, an outlet in accordance with the needs of primitive sexuality. The drainage of the pond would seem to indicate the need for analytical self-criticism, the mastodon representing an extremely archaic vestige surviving in the unconscious, some early infantile fixation stultifying the harmonious development of the individual.

I thought it would be of interest to submit this dream to Jung to ask what his interpretation would be. He had no hesitation in saying that it indicated some organic disturbance, and that the illness was not primarily a psychological one, although there were numerous psychological derivatives in the dream. The drainage of the pond he interpreted as the damming-up of the cerebro-spinal fluid circulation.

That interpretation is of unique interest. The dream does indeed have a mechanistic colouring, as though it were saying that some physiological function were not working smoothly. It seems strange that the cerebro-spinal fluid should be symbolized as a pond, but here a sentence of Wilfred Trotter's comes to mind.

"It is interesting to reflect," he says, "that the source of this mysterious secretion which has given so much difficulty to the chemical physiologist may turn out to be no more abstruse a thing than nature's nearest approach in the animal body to a spring of plain water; if this should be so, it may also remind us of the small and amusing coincidence that one part at any rate of the tortuous channel through which the fluid runs—the aqueduct of Sylvius—has since the very early days of anatomy borne a singularly exact and appropriate name."

I will take the liberty of amplifying Jung's interpretation of the dream, and as preface to this will quote two observations, the first by Cushing on the pituitary gland.

"Here in this well-concealed spot," he says, "almost to be covered by a thumb-nail, lies the very mainspring of primitive existence—vegetative, emotional, and reproductive—on which, with more or less success, man, chiefly, has come to superimpose a cortex of inhibitions. The symptoms arising from disturbance of this ancestral apparatus are beginning to

stand out in their true significance. The diencephalon is an ancient part of the brain which remains essentially unaltered in all creatures that have a brain at all."

My second quotation is from Brain and Strauss[5]:

"Medical history can show few revolutions of thought more startling than the development of our knowledge of the functions of two small structures at the base of the brain, the hypothalamus and the pituitary gland. Hardly had physiologists become accustomed to regarding the pituitary as possessing a profound influence upon growth and metabolism than research began to attribute very similar activities to the neural centres in the floor of the third ventricle, and to cast doubt upon their attribution to the pituitary"

What did the dream say? "The pond was drained, and amid the slime were two extinct animals miniature in size. One was a minute mastodon. I forget what the other was." Why should we not say—the hypothalamus and the pituitary lying beneath the cerebro-spinal fluid pond? It is not difficult to interpret the meaning of slime—the colloid secretion of the pituitary. According to Collin,[6] the flow of that secretion is in several directions, towards the general circulation, to the tuber cinereum and into the cerebro-spinal fluid of the third ventricle. The latin word *pituita* means slime or mucus. Here, then, we have a striking parallel to the neurological hypothesis which would assume some derangement of the neural centres of the floor of the third ventricle. It is not overstressing the comparison to suggest some similitude between the corpora mammillaria and the nipple-like projections on the molar teeth which give the mastodon its name. Doubtless there would be some measure of pituitary dysfunction too. Hormonal disturbances have their counterpart in psychological commotions. In this case it would appear that the latter are derivative. Indeed, the two are often so inextricably interwoven that it is impossible to assign to them their respective responsibilities.

Conclusions

In the case outlined above it would appear that the "periventricular" attacks were incidents in a wider disease process, one of the toxic or infective-exhaustive group.

The cessation of the diurnal attacks, the amelioration of the nocturnal ones, and the restoration of the complete clarity of consciousness, together with general improvement of the bodily health, without resort to drugs, indicate this.

The locus of the disturbance is not in doubt—the sides and floor of the third ventricle, but its causation is still conjectural. A patch of old encephalitis has been suggested.

Dream interpretation here corroborates the neurological hypothesis in a striking manner. The psychological elements in the case would seem to be secondary to the toxic processes, but ought not on that account to be neglected. The acquisition of insight and the allaying of fears tend to hasten recovery.

Dreams also, it would seem, do not merely provide information of the psychological situation, but may disclose the presence of organic disturbance and even denote its precise location.

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In 1939 King's College Hospital will celebrate its hundredth birthday. It is over twenty years since King's moved from its original home in Portugal Street to Denmark Hill. A centenary committee has now been formed, under the chairmanship of Lord Hambleden, who has with him several other members of the Committee of Management, including Mr. V. E. Negus, representing the medical staff.

RAT-BITE FEVER

BY

E. GRAHAM ELWELL, M.B., CH.B.VICT.

LATE RESIDENT CLINICAL PATHOLOGIST, MANCHESTER ROYAL INFIRMARY

Relapsing fevers are not a common occurrence in general practice. Their incidence presents considerable difficulties of diagnosis, hard to resolve in the absence of a clear-cut history of definite infection. The usual causes of continued pyrexia, such as are found in this country, are limited unless the patient has lived abroad recently, or is in contact with sources of infection introduced from tropical climes.

In a review of the aetiology of recurrent fever, French[1] states that "of three special types of cases, rat-bite fever, blood diseases, and liver conditions, many cases of the former occur annually in Great Britain, but they are not all recognized." T. Hare[2] points out that only a few cases have been recorded in this country. Price[3] mentions a case recorded by Horder. Of world-wide distribution, it appears that the disease is commonest in Japan, where it is known by the name "sodoku." India ranks nearest, and reports of cases come from France, Italy, Spain, East Africa, West Indies, and Australia. Five were diagnosed in one county in South Carolina during 1929. Ripley and Van Sant[4] report two cases of rat-bite fever from the University of Chicago Department of Medicine occurring in medical students. Van der Bogert[5] described a clinical case in a child of two and a half years old. Hare[6] quotes Yamada's description of a case of relapsing fever after a cat scratch which proved to be due to the identical organism of rat-bite fever.

Aetiology

Infection is due to an organism named variously, but the *Spirochaeta morsus muris* is the most likely cause. The latter gains entry to the bitten tissues and later into the blood stream and lymph glands. The house rat is occasionally a carrier. Recent work suggests that the spirillum is that named *Spirillum minus* by Carter, but American workers favour the above-mentioned organism.

Symptomatology

Following a latent interval varying from two to six weeks, swelling, pain, and ulceration appear at the site of the original bite. Immediate application of antiseptics may not affect the issue. Local lymph glands enlarge and feel shotty on palpation. Lymphangitis emerges in the affected region. Rigors, general malaise and lassitude, headache, joint pains, backache, nausea, and vomiting are liable to occur. Muscle stiffness and tenderness may be found. Anorexia is marked and the bowels loose. A characteristic dusky-red rash appears, the spots measuring from 0.5 to 6 cm. in diameter, indurated, and losing their colour on deep pressure. The distribution is not limited to the neighbourhood of the bite. The face, thorax, and abdomen are affected equally with the extremities. Bouts of fever lasting several days are interspersed with intervals of freedom. Untreated, these recur over a period of months or years. Chronic ill-health may result, but is unlikely after adequate treatment. The mortality has decreased from 10.5 per cent. to a very small figure in Japan since the introduction of treatment by the organic arsenicals. Nephritis is recorded as a permanent complication, and encephalitic phenomena have been seen.

Treatment

Low and Fairley[7] advise the injection of "one or two" doses of salvarsan or its derivatives. Commencing with 0.3 gram this may be given intravenously. Others state

that with less than three injections relapse is likely to occur. Three to six injections are advocated. Local and other treatment is symptomatic.

Case History

A married woman, aged 40, with a previous medical history of cholecystectomy, 1-para and no miscarriages, deliberately, and of set purpose to kill the animal, trod on a rat in a farmyard. She was wearing slippers, and the rat turned and bit the dorsum of her foot. There was little to be seen at the time, but she applied tincture of iodine at once to the two small puncture wounds. Apart from a little soreness no pain followed, and the lesion healed in the usual way in the course of a day or two. No scar resulted.

On the fifteenth day, when the patient was first seen, she complained of "pain and swelling of the leg." No definite rigor had occurred, but she "felt shivery." The tongue had a white fur, and she had no appetite for food. A bluish-red, indurated, unbroken swelling was found on the dorsum of the foot. Surrounding this, and below the level of the raised lesion, considerable oedema was present. The lymphatic glands in the corresponding groin were "sore" but not appreciably enlarged at this stage.

On the sixteenth morning a rigor occurred and the lesion had become black in the centre, with a circumscribed, very painful red area fading into the oedematous tissues. The temperature had risen from normal to 99.6° and the pulse was 64. She felt ill.

On the eighteenth evening the temperature had risen to 101.2°, but the pulse remained low at 86. The black central slough had begun to separate. One small separation was removed for examination. The ulcerated area was treated by eusol fomentations. As these seemed to give more pain than plain hot-water foments, the latter were substituted and used afterwards. The whole extremity was aching and the portion of the limb within six inches of the ulcer was exquisitely tender. The patient vomited once during the day.

On the nineteenth day the general disturbance was marked, the temperature being 101°. There was restlessness, retching, and much flatulence. Vomiting occurred at intervals. A dusky-red rash appeared on the body, with several spots on the face. The first injection of novarsenobillon in a dose of 0.3 gram was administered intramuscularly on the nineteenth day. Owing to the combined facts that the patient was rather obese and intravenous medication was difficult, this route was chosen. No immediate reaction followed.

In the evening of the twentieth day the temperature had risen to 103°, and the pulse again appeared low at 80. She felt better, and vomiting ceased. The next day improvement was considerable. The temperature was normal. The wound was less painful. From this time she improved in every way. The ulcer became cleaner and swelling lessened with a great diminution of the pain. She was able to get up on the twenty-eighth day. The site of the bite was still discharging a slightly purulent fluid. It is to be noted that throughout the case history the discharge was never frankly purulent, but more sanious in type. The blood Wassermann reaction was negative. A differential white count showed: polymorphs, 58 per cent.; lymphocytes, 28.5 per cent.; eosinophils, 1.0 per cent.; hyalins, 12.5 per cent.; basophils, none seen. Red cells showed distinct anisocytosis and slight poikilocytosis with fairly frequent polychromasia, but no definite punctate basophilia. No nucleated red cells were seen. No parasites were detected (dry film). A recent film did not show any organisms recognized as such.

The patient was fairly well until the fortieth day, when the temperature rose again to 99°. This was the same each evening for four nights. After subsiding it rose again on the fifty-first evening, and the patient became very ill once more. The rash returned, and on this occasion there was marked aching in the joints. The local lesion became angry and inflamed; the discharge increased, but, as before, this was not definitely purulent.

On the fifty-third morning I decided to give another injection of N.A.B., the dose being increased to 0.45 gram, given again intramuscularly. It is difficult to dissociate psychical reaction from that due to the actual preparation. She complained of much flatulence and vomited repeatedly. No symptoms which may be ascribed to anaphylaxis were definitely present. A colleague who saw the case at the time ascribed the reaction to neurotic apprehension. Within the following twenty-four hours the temperature and general symptoms had subsided.

The ulcer healed for the first time on the fifty-ninth day, and has given no trouble since. The patient has regained her usual health.

Comment

Throughout the periods of pyrexia the pulse rate was comparatively slow. Even when the temperature reached the highest recorded, the rate was only 80.

Although the blood picture is not typical of that of previous records, the case is assumed to be a genuine example of rat-bite fever in view of the positive history of an injury, the relapsing fever, and the symptoms shown. The response to organic arsenicals renders the diagnosis more certain.

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INTESTINAL OBSTRUCTION BY ROUND-WORMS FOLLOWING ADMINISTRATION OF AN ANTHELMINTIC

BY

J. BALFOUR KIRK, M.B., CH.B., M.R.C.P., D.P.H., D.T.M. AND H.

DIRECTOR, THE MEDICAL AND HEALTH DEPARTMENT, MAURITIUS

AND

A. Y. CANTIN, M.R.C.S., L.R.C.P.

MEDICAL SUPERINTENDENT, CIVIL HOSPITAL, PORT LOUIS, MAURITIUS

A case of intestinal obstruction by *Ascaris lumbricoides* following upon the administration of an anthelmintic seems worth placing on record.

Case Report

A boy, aged 10, was admitted to hospital one evening with the following history. In the early morning he had taken a mixture of chenopodium and castor oils; his bowels had acted about two hours later, but no worms had been expelled. Shortly after this motion he was seized with severe colicky abdominal pain and an urgent but ineffectual desire to empty his bowel. The pain continued throughout the day, and vomiting set in. A doctor was summoned in the evening. He advised the administration of an enema, and as this was returned without faeces or flatus he referred the child to hospital with a diagnosis of intestinal obstruction.

Condition on Admission.—The patient was a well-nourished lad. The tongue was moist, the temperature 98.6°, and the pulse 120. The abdomen moved well with respiration; there was slight distension; no visible peristalsis. An ovoid mobile lump could be felt below and to the right of the umbilicus. The sudden onset of colicky abdominal pain, vomiting, and absolute constipation shortly after the administration of an anthelmintic, coupled with the finding of an abdominal tumour, was strongly suggestive of intestinal obstruction by a mass of worms, and immediate laparotomy was decided upon.

Operation.—The abdomen was opened by a right rectus incision below the umbilicus. The lumen of the small intestine, about four inches above the ileo-caecal junction, was found completely blocked by a spindle-shaped mass, over which the intestinal wall was thinned; the characteristic "bag of worms" sensation was obtained in palpating the swelling. The coils above the obstruction were moderately distended. An incision one inch long was made over the

convex border of the gut, and fifty-seven dead ascarides, of different sizes and all matted together, were extracted through the opening. The intestine was repaired by two rows of sutures and the abdomen closed up in layers. The patient made an uneventful recovery.

Cases in the Literature

In considering this case the question which occurs to one is whether or not the administration of the anthelmintic was responsible for the obstruction. It is impossible to say. *Ascaris lumbricoides* has acquired a reputation for liability to cause spontaneously acute intestinal obstruction, sometimes resulting in the death of the patient in the absence of surgical intervention or if surgical intervention is late. Garcia[1] describes the case of a girl, aged 3 years, in whom the extensive resection necessitated by the occlusion of the gut on a length of eighty centimetres by ascaris proved fatal. Levin and Annie Porter[2] record four cases of sudden intestinal obstruction due to ascaris, in which the main interest lies in the large numbers of parasites harboured by the patients. One patient, a Hottentot boy of 11 years, was relieved of 851 worms through incisions made in the jejunum. He subsequently passed forty-eight and recovered. Another patient, a European girl aged 9 years, had 737 worms removed at operation and afterwards passed 253 ; she also recovered. In two girls in whom the effects were fatal hundreds of worms were found. Allis[3] describes a fatal case from Ceylon, in which 547 ascarides were removed from the intestine of a woman admitted with symptoms of intestinal obstruction, while Ryrie[4] reports a fatal case in Malaya from which 1,488 worms were removed.

In contrast to these a scrutiny of the abstracts published in the *Tropical Diseases Bulletin* over the same period reveals only the two cases recorded by Watkins and Moss[5] of intestinal obstruction by *Ascaris lumbricoides* following the administration of an anthelmintic, on this occasion santonin followed by calomel. Both children, aged 3 and 4½ years, developed intestinal obstruction, and at operation forty-nine worms were removed from the first and fifty-three from the second child.

It will be observed that the cases of spontaneous acute intestinal obstruction have been recorded only from patients harbouring large numbers of worms. It may be that a certain minimum number of worms is necessary before the conditions leading to the obstruction are produced. Verdelet and Lacouture[6] ascribe the symptoms of ascaris occlusion to " segmentary hyperperistalsis "—that is, an intestinal spasm produced reflexly by the irritation of the bowel by the worms. If the probability of this hypothesis is acknowledged it is conceivable that there must be certain given conditions before actual obstruction occurs. The parasites are mobile and presumably would tend to avoid compression by the spasm by moving to other parts of the bowel. If, however, owing to the numbers present or to diminished mobility a traffic block should occur in the alimentary tract of the host symptoms of obstruction would arise until, with continuance of the blockage, the patient's condition would become acute. Dilatation of the bowel would then be insufficient to relieve the jam, there would be thinning of the intestinal wall, giving a liability to perforation, which, should it occur, would lead to peritonitis if already the patient had not succumbed to the intoxication. In such a case surgical intervention would hold out the only hope of recovery.

The Anthelmintic as a Factor

That the anthelmintic may be a factor might be deduced from the cases recorded by Watkins and Moss, as well as in the one recorded here. The numbers of worms causing the obstruction are almost insignificant when compared with the large quantities recorded in the cases of spontaneous obstruction. But the effect on the worms of the anthelmintic in therapeutic doses is narcotic, though this may be preceded by a transient stimulation. It is possibly this which tends to make the worms entangle themselves into the doughy masses found at operation or post mortem, of which obstructions the bowel is unable to relieve itself.

On the other hand, infection by *Ascaris lumbricoides* is widespread in Mauritius. About 80 per cent. of the rural population harbour this parasite. During the past eight years the staff of the hookworm campaign have given over 250,000 anthelmintic treatments, and yet obstruction by ascaris has occurred on only four occasions in the past. The anthelmintic used in the hookworm campaign (carbon tetrachloride and oil of chenopodium, separate or combined, according to circumstances) are effective for ascaris infections as well as for hookworm, and were the anthelmintic the only factor one would expect to find that cases of intestinal obstruction due to ascaris occurred much more frequently than has actually been the case. One is therefore driven to postulate some other unknown factor, conveniently designated idiosyncrasy, to account for the comparative rarity of the condition.

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Clinical Memoranda

Successful Breast-feeding from one Breast only

The following case is a good illustration of the factors controlling lactation, and an example of how the " will to feed " a baby on the part of a mother can triumph over considerable disability.

Mrs. X., aged 33, fed her first baby normally from both breasts. During the second pregnancy, six years ago, a severe inflammatory condition developed in the left breast at about the fifth month, with abscess formation, necessitating admission to hospital and two operations for drainage, with a long period of illness. The baby on this occasion was not breast-fed. With her third baby, however, three years ago, and with the fourth baby, now aged a few months, breast-feeding from the right breast only has been successfully accomplished. According to the mother's description a certain amount of enlargement of both breasts has occurred during the last two pregnancies, the right (normal side) being much more obvious than the left. Some colostrum has been squeezed from both nipples. Following confinement milk appeared in both breasts on about the third to fourth day, much more in the normal breast. The baby was only allowed to suck from this side, and within twenty-four hours the enlargement of the left breast had subsided. Examination of the breasts on occasion of the mother's attendance at a welfare clinic showed that the right breast was in a full state of lactation. The left breast showed several large scars, more or less radiating from the areolar tissue and, apart from this, presented the appearance of a non-lactating breast in a multipara. No milk could be expressed from the nipple on this side. Palpation suggested that there was little breast tissue present in this organ.

The facts recounted illustrate that maturation of the breast during pregnancy and the establishment of lactation are under systemic hormonal control, but that once this has occurred the maintenance of lactation depends upon local stimulation and efficient emptying of the breast.

London, W.1. ALAN MONCRIEFF, M.D., F.R.C.P.

Reviews

THE CRIPPLED AND THE DISABLED

Dr. Henry Kessler, the medical director of the New Jersey Rehabilitation Commission, in his recently published book, *The Crippled and the Disabled*,[1] reviews the problems of the physically handicapped. He contrives therein to cover the whole range of disablement, from childhood to old age, dealing en route with the war veteran, and also includes a very interesting summary of the attitude of different races, both in ancient and in modern times, towards the disabled and the deformed. Whilst the book is primarily concerned with the conditions and legislation of the United States, the author also, and obviously with considerable knowledge, makes effective comparisons with the experience and practice of other countries.

The term "disabled" is made widely inclusive, and five classes are dealt with in detail: the child cripple, the industrially disabled, the war-disabled, the chronically disabled, and those who have defects of the special senses. The main problem in all these classes is defined as vocational maladjustment, and Dr. Kessler is not alone in advocating that the "effectiveness of the disabled should be utilized in the national economy." For crippled children he urges the desirability of universal State registration in the manner so far adopted in eleven of the States, and maintains that, following medical treatment and education, it is the function of Governments to provide a training and a suitable occupation. He estimates that in the U.S.A. crippled children amount to 3.7 per 1,000 of the child population. For the industrially disabled, whilst claiming that rehabilitation legislation is a distinctively American contribution to the problem, he looks forward to the time when the interests of these men and women will everywhere be fully and legally safeguarded. He admits having had hopes that the employment of sub-standard workers at less than minimum rates would be generally beneficial. But even though this formed part of the National Recovery Act, and was therefore presumably temporary in application, and came at a time when unemployment was at its highest, he feels considerable doubt about it.

Dr. Kessler recognizes and appreciates the attempts made in all countries to train the war-disabled, though he comments on the disappointing results, coupled with waste and inefficiency, in the early reconstruction period. Such initial mistakes by nations, in their anxiety to do their best for those who have fought their battles, are, however, almost inevitable. In commenting on the general desire for permanent pensions he notes that nowhere was this pension used for vocational adjustment, as for industrial accident cases. Like Miss Katherine Mayo in *Soldiers, What Next?* he is somewhat critical of much that is being done for the world war veterans, but, unlike her, he seems satisfied that the claims of the war-disabled veteran, as opposed to the war veteran, have received adequate recognition.

In his brief account of the British Ministry of Pensions Dr. Kessler is both fair and generally accurate, although his estimate that our "pensions growing out of the world war will end in 1980" presupposes a remarkable longevity on the part of the average pensioner, who by that date would be over 90. For the chronically disabled, little has been done in the way of rehabilitation, and an extension of the efforts of institutions such as Preston Hall and Papworth is strongly advocated. The trained tuberculous ex-Service man should, he also urges, be given consideration on the same lines as the blind, though he does not underestimate the difficulties in such provision, and fully appreciates what he calls the psychosocial prejudices which are apt to arise in those working with tuberculous or disfigured persons. For the wholly unproductive he would prescribe pensions on a State basis, and holds that, in the United States, "the needs of the crippled and disabled can be met without resort to revolutionary changes in our social philosophy." His general thesis is that voluntary funds have eventually to give way to those of the State. But, in making his case for the employment of the disabled, he, perhaps wisely, omits the general world problem of unemployment. It is obvious that the absorption of the physically disabled as a class, which he shows to be of considerable dimensions, would add enormously to the present difficulty of reinstating the physically fit in employment; and, as is well known in this country, placing a disabled man in employment may often mean the displacement of one physically fit. None the less, for the good of the population as a whole, as well as for the disabled class, it is ultimately necessary that the physically disabled should be fitted for suitable occupations, and, as far as possible, removed from their dependency on others, although, in the present state of affairs, it may not be possible to make them self-supporting.

The book is extremely interesting, and contains much of value to all concerned in the many problems of the crippled and disabled. The author's views command the respect due to those who can speak with the authority of experience.

[1] *The Crippled and the Disabled. Rehabilitation of the Physically Handicapped in the United States.* By Henry H. Kessler. New York: Columbia University Press. London: H. Milford, Oxford University Press. 1935. (Pp. 337. 20s. net.)

SCIENCE AND ART OF THERAPEUTICS

An attempt to include the science and art of therapeutics in a single volume is an attractive enterprise, and, if successful, the achievement must find a ready and widespread audience. The handsome volume named *Therapeutics*,[2] the latest in *The Practitioners' Library of Medicine and Surgery*, professes the ambition indicated by its title; and its organization, directed by Professor George A. Blumer and Albert J. Sullivan of the Yale University School of Medicine, includes thirty-five contributors, each selected for his special experience of the subject committed to his pen. An early sentence in the preface announces that "the art of therapeutics cannot be taught," meaning, apparently, that unless the physician himself possesses certain qualities neither his methods nor his prescriptions will command much success. One of the aims of the book is to show how these personal qualities may be created or cultivated, and although the official definition runs that therapeutics is concerned with "the management of disease," there is much to show that the makers of the volume fully recognize that not a small part of the medical art means "the management of the patient." Indeed, this is a feature which makes the book both interesting to read and of wide educational value; the author of each section speaks from his personal knowledge and experience, and translates his advice into detailed and specific recommendations. In these fashions the wants of the practitioner engaged from day to day with patients who wish to be "cured" are very effectively met, and the student will hardly fail to find in one or other chapter of the book a satisfactory discussion of the various therapeutic problems which present themselves at the bedside or in the consulting room.

[2] *The Practitioners' Library of Medicine and Surgery.* Vol. viii. *Therapeutics.* New York and London: D. Appleton-Century Co. 1935. (Pp. 1031. 50s. Sold in sets only.)

Considerable stress is placed on the value of an understanding of principles as the necessary preliminary to practical application, and to enforce this proposition the earlier part of the volume is devoted to the exposition of doctrines and methods. This section includes not only the manner of administration of medicinal agents but also the study of diet, exercise, climate, massage, manipulation, electricity, sera, vaccines, psychotherapy, and hydrotherapy, and it opens with a number of wise common-sense counsels, included under the term "the general care of the patient." Throughout "fads" are conspicuously absent, and recent additions to knowledge receive adequate recognition. In days in which the practitioner is overwhelmed and oppressed by a multitude of commercially confident therapeutic appeals the time that the perusal of these must entail might be much more profitably spent in the companionship of these well-reasoned and helpful chapters.

The section entitled "Special Therapeutics," some three-quarters of the book, covers the whole field of practical treatment as this is called for by general diseases and by pathological disturbances in various parts of the body. Here are to be found many evidences against the superior doctrine that medicines are of little service as remedies and that drug therapeutics generally is hardly worthy of serious study. Directions are given in detail and with obvious confidence, so that for the junior practitioner particularly the book is one that is full of friendly counsel and practical help, while the more experienced may still find useful suggestions and knowledge of recent developments. In a word, volume viii of *The Practitioners' Library* is what it professes to be, an authoritative textbook of therapeutics, alike on the theoretical and the practical side, and we welcome it as worthy of every confidence.

SURGICAL ANATOMY

The up-to-date and practical character of the fourth edition of *Beesly and Johnston's Manual of Surgical Anotomy*[3] was to be expected, remembering the previous editions and the general reputation of its authors. The new edition has been revised and some important additions made by Mr. JOHN BRUCE and Mr. ROBERT WALMSLEY. This manual does not fall into the catagory of some books on the same subject which are satisfactory neither from the anatomical nor from the surgical point of view—a fault largely due to insufficient space in one volume to allow of an adequate description of all the necessary anatomical and surgical details for carrying out the many operations which are alluded to. In the present work room has been found for new matter by omitting the description of operations no longer practised. This procedure might well be followed by authors of other medical and surgical works; we feel that it would be fully appreciated by student readers, who are apt to be confused by too many alternative methods and who wish to make the best use of their time by studying only those which are practised at the present day.

Some new additions to the text concern the description of the surgical treatment of affections of the sympathetic system, thorax, and abdomen. In view of recent work on the macroscopical and microscopical structure and comparative anatomy of the sympathetic system, the unquestioning adherence to the hitherto generally accepted description of the sympathetic system is perhaps rather too dogmatic, but the account is on the whole extremely good, and the book in general is a model of terse, clear writing.

[3] *Beesly and Johnston's Manual of Surgical Anatomy*. Revised by John Bruce, M.B., F.R.C.S.Ed., and Robert Walmsley, M.B., Ch.B. Fourth edition. London: H. Milford, Oxford University Press. 1935. (Pp. 717; 187 figures. 20s. net.)

OBSCURE DISORDERS OF THE BLOOD

A monograph by SABRAZÈS and SARIC[4] deals with three conditions which are related only by superficial points of resemblance and by the fact that, as diseases of still unknown or imperfectly known aetiology, they have lately excited much interest. Each is fully described from the point of view of symptomatology, morbid anatomy, laboratory investigations (both diagnostic and aetiological), and treatment, while considerable bulk is added to the text by full descriptions of a number of cases. These constitute the only original contribution in the work, since otherwise it is simply a statement of orthodox modern views with a fairly full though not complete bibliography. The authors are somewhat uncritical, especially in connexion with their first subject (glandular fever, or infectious mononucleosis), in quoting observations in which various bacteria have been incriminated as causal agents. Agranulocytosis is considered in its broadest aspect, considerable space being devoted to the production of leucopenia by such agencies as irradiation and severe sepsis, as well as to that form of agranulocytosis which we now know to be due frequently to the action of amidopyrine. The third section, on what we are accustomed to call aleukaemic leukaemia (or for those who prefer a more recently invented name, leucopenic myelosis), is the least satisfactory, perhaps necessarily so, because enterprising writing on such an obscure subject can only lead into the paths of speculation. The authors' final attempt to draw an analogy between this disease and disorders of the marrow characterized by agranulocytosis, in which they quote the unique case of two radium workers, one of whom developed leukaemia and one aplastic anaemia, is altogether too thin and unsupported. This is really a field of medicine in which facts, and yet more facts, are alone capable of advancing knowledge beyond its present very primitive condition. Those interested in these obscure disorders will find this volume a useful work of reference, and perhaps a source of fresh ideas in diagnosis and treatment.

OPHTHALMOLOGY

The *Handbook of Ophthalmology*,[5] by Messrs. HUMPHREY NEAME and WILLIAMSON-NOBLE, first appeared in 1927, and a second edition has now been issued. The book is intended for undergraduate students and general practitioners, and therefore the authors have concentrated upon that which is of common occurrence and omitted references to rarities in ophthalmology. They have dealt in greatest detail with those diseases of the eye and its surroundings which form the bulk of hospital and out-patient practice, and have also included some description of the commoner ocular conditions found among medical in-patients. In this second edition a chapter devoted to the subject of tropical ophthalmology has been included; it is written by Major Harold Williamson. As might be expected short accounts are given of the treatment of detachment of the retina by diathermy, of recent advances in glaucoma, and methods of treatment by protein shock.

The book is so well done and so well produced that criticism seems almost ungracious. But where space is precious it is surely unnecessary to include figures of such common objects of the out-patient department as test types, lamp brackets, ophthalmoscopes, and possibly even of perimeters. Every student knows the look of these

[4] *Angines Lympho-monocytaires: Agranulocytose, Leucémies, Leucopéniques*. By J. Sabrazès and R. Saric. Paris: Masson et Cie. 1935. (Pp. 363; 18 figures. 40 fr.)

[5] *A Handbook of Ophthalmology*. By Humphrey Neame, F.R.C.S., and F. A. Williamson-Noble, F.R.C.S. Second edition. London: J. and A. Churchill, Ltd. 1935. (Pp. 339; 147 figures, 12 plates containing 46 coloured illustrations. 12s. 6d.)

things. The same may be said of other common instruments. On the other hand, it is rather surprising to find no reference to the use of the slit-lamp. Even if a student may not be expected to be able to use one or appreciate its disclosures, yet living microscopy enters so largely into eye work that a student should be able to understand what is being talked about. Contrariwise it might be remarked that, whereas operations for ptosis palpebrae and Mules's operation for an elegant artificial eye are of interest to the eye surgeon, both are rare and negligible to the student. There are no fewer than forty-six coloured illustrations of fundus drawing and of surface disease, which will be of great service to the student.

Notes on Books

Mr. Kenneth Walker's little book *Sex and a Changing Civilization*, which forms the latest addition to the Twentieth Century Library Series (John Lane, 3s. 6d.), gives a lucid exposition of modern views of the sexual problem in its biological, psychological, social, legal, and pathological aspects. A short bibliography of recent literature is appended.

A pamphlet of fourteen pages, *The Problem of the Intoxicated Motor Driver*, was first issued in 1926 by the True Temperance Scientific Committee (Donington House, Norfolk Street, Strand, W.C.1) at the price of 2d. It has now been republished after revision, and is signed by Sir James Crichton Browne, Lord Horder, Dr. Robert Hutchison, Dr. H. Wansey Bayly, Professor D. F. Fraser-Harris, and Dr. W. H. B. Stoddart. Three aspects of the problem are discussed—the legal, the scientific, and the social—and detailed reference is made to the paper by Drs. Southgate and Carter, published in the *British Medical Journal* of March 13th, 1926, on the examination of alcohol in the urine as a guide to alcoholic intoxication. The committee acknowledges help received from Sir James Purves-Stewart in revising the scientific aspect of the problem.

The work entitled *Healing Ritual*,[1] by Miss P. Kemp, which has been published in conjunction with the School of Slavonic and East European Studies of the University of London, gives an interesting and detailed account of folk medicine, which she had an opportunity of studying during her travels in the Moravia district of Serbia, Eastern and Central Bosnia, the Lim Valley, Southern Dalmatia, and parts of Montenegro and Macedonia. The subjects discussed include folk psychology, the folk doctor and his patients, the sources of ancient magic and medicine, and the various modes of treatment adopted. The author shows that there exists among the South Slavs and the various races living in the Balkan peninsula a widely developed corpus of medical practice, which though closely akin to popular medicine and beliefs in other countries has longer retained a real social importance. A bibliography of popular medicine and medical terminology is appended.

Volumes v, vi, and vii of the *Sportsman's Library* well maintain the standard of excellence of the first four books of the series previously noticed in these columns. Vol. v, on *Making a Shoot*, is by a member of the medical profession, Lieut.-General Sir John Goodwin, late D.G. Army Medical Services, and afterwards Governor of Queensland, whose love of field sports is well known. Vol. vi, on *Trout Fishing*, is by H. O. Turing, and vol. vii, on *Salmon Fishing*, by W. J. Menzies. Mr. Turing, the angling editor of the *Field*, and Mr. Menzies, the expert of the Scotch Fishery Board, both deal with their subjects very completely and in a most practical way; the latter, in his chapter on low-water fishing, is particularly good. The books of this series are published by Philip Allan at 5s. each. They are all well produced, and the purpose of the illustrations is to explain the text, not merely to decorate it.

[1] *Healing Ritual*. Studies in the Technique and Traditions of the Southern Slavs. By P. Kemp. London: Faber and Faber, Ltd. 1935. (Pp. 335; 25 figures. 21s. net.)

Preparations and Appliances

TWO EAR, NOSE, AND THROAT INSTRUMENTS

Dr. C. Salkeld (honorary surgeon, Ear, Nose, and Throat Department, Cornelia Hospital, Poole) writes from Bournemouth:

The two instruments described and illustrated in the accompanying figures have proved convenient in my work.

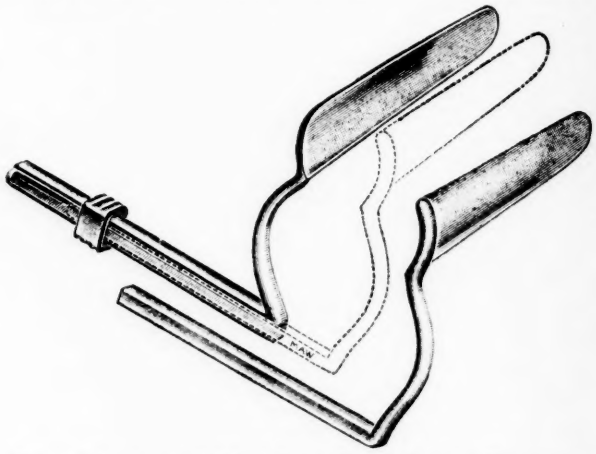


Fig. 1 shows a modified long-bladed Lennox-Browne type of nasal speculum for the submucous operation on the septum. The blades are easily inserted separately—one on either side of the cartilage—and then locked together by the sliding collar, with the desired degree of separation. The instrument was made for me by Messrs. S. Maw, Son and Sons, Ltd.

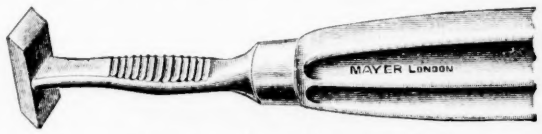


Fig. 2 shows a "push and pull" periosteal elevator, which is intended more especially for mastoid operations. It has been made for me by Messrs. Mayer and Phelps Ltd.

AUSCULTATION TUBE FOR EUSTACHIAN CATARRH

Dr. M. Y. Paget (Edgware) writes:

The accompanying diagram illustrates an appliance for use when inflation of the Eustachian tube is required. The india-

rubber auscultation tube from the patient's ear to the operator's ear is always liable to fall out just at that critical moment when it is most needed. In order to overcome this an auscultation tube has been devised which is retained in position by a spring head-band. The earpiece at each end of the tube is attached to a light steel spring, which passes over the head. There is a joint by the earpiece, so that the band can be adjusted comfortably over the heads of both the patient and the operator. It has the further advantage that the hands are left free. The earpieces are connected with rubber tubing a quarter of an inch in diameter, and the metal parts are chrome-plated.

Messrs. Allen and Hanburys Ltd. have kindly consented to produce the appliance at a modest cost.

MENTAL DEFICIENCY IN ENGLAND

NEW STATUTORY RULES

Copies of new and revised Mental Deficiency Regulations,[1] which will replace the Regulations of 1914 and 1915 and come into operation on September 1st, have recently been circulated for official use. Except by the omission of several provisions relating to administrative arrangements, now dealt with by circular, few alterations have been made, and of these the more important are referred to in an explanatory memorandum[2] of the Board of Control, copies of which accompany the Regulations. In this circular the Board, with a view to assisting those who are required to observe the Regulations, take the opportunity of drawing attention to some matters of procedure imposed by the Mental Deficiency Acts and the Regulations, even though they may have been mentioned in previous circulars. The Regulations, of which there are now 112, are divided into fourteen parts. Naturally, they vary in scope or breadth of application and those which are of medical interest mainly concern the growing number of medical practitioners officially connected with the working of the Mental Deficiency Acts.

Some Matters of Procedure

Part I, labelled "General" and composed of eight articles, is concerned with definitions and interpretation, consents and licences, records and forms and returns, and under this last it is to be noted that Article 6 states that where under any provision of these regulations the duty of making entries in records or of sending notices is imposed on the superintendent, such duty may be performed by some other competent person duly authorized in that behalf—a substantial relief to many medical superintendents.

Part II deals with the duties of local authorities in respect of the ascertainment of defectives in their areas; the agencies for carrying out this duty and that of supervision; the provision of conveyances for defectives and attendants; and of annual reports. Touching the matter of ascertainment, any reference to the methods to be employed, as also of recording, has been omitted from the Regulations, but the Board in its circular emphasizes the need for close co-operation between the local and other authorities and public bodies—local education authorities, police, mental hospitals, charitable and voluntary associations, etc. Medical practitioners engaged in this field of public work will appreciate the value of co-operation, especially perhaps as between local authorities under the Mental Deficiency Acts, local education authorities, and voluntary associations, as by co-operation a more complete or satisfactory knowledge of individual cases can be gained, and also, notwithstanding the difference of standards of mental defect between the two authorities, agreed action may be facilitated.

Another matter to which the Board direct particular attention by local authorities is the avoidance of delay in dealing with "place of safety" cases. The 1913 Act authorizes in these cases a period of detention sufficient only to enable a petition to be presented. Relatively, such cases are small in number, but the fact remains that numbers of defectives sent to places of safety, either by courts under Section 8, or as having been found "neglected, abandoned, or without visible means of support, or cruelly treated" under Section 15, continue at times, for whatever reason, for long periods in institutions which were neither originally designed for, nor are capable of affording, the special treatment and training of defectives. The Board's observations are addressed to the local authorities, but there can be little doubt that medical officers of institutions in which "place of safety" cases are temporarily housed can exert influential pressure in such cases.

[1] Statutory Rules and Orders, 1935, No. 524. Mental Deficiency, England. The Mental Deficiency Regulations, 1935, dated June 5th, 1935, made by the Minister of Health under the Mental Deficiency Acts, 1913 to 1927. (1s. 4d.)

[2] Circular No. 808, The Board of Control. June, 1935.

Amendment of Documents

Part III of the Regulations relates to procedure on petition; presentation of petition; recommendation of guardian; dismissal of petition; delivery and hearing of petitions; and (Article 20) the amendment of orders and other documents. With regard to this last-named the Board's circular draws attention to an important "limitation" of this regulation. Article 20 reads as follows:

> (I) When a patient has been received under an order into an institution or certified house or under guardianship—
>
> (*a*) if the order or any document upon which the order was made is found to be in any respect incorrect or imperfect it may, with the consent of the Board, be amended by the person who signed it, within twenty-eight days after the reception of the patient;
>
> (*b*) if the Board deem the order or any document upon which the order was founded to be incorrect or imperfect they may require the order or document to be amended by the person who signed it, and if the order or document is not amended within twenty-eight days after the reception of the patient the Board may, if they think fit, make an order for the patient's discharge.

In their circular the Board say: "The following limitation of Article 20 should be observed: if a reason is advanced which, in the Board's opinion, is incorrect or imperfect, no amendment of the statutory declaration can be authorized under that article, the Board having been advised that it is not possible to amend a statutory declaration." That is, if the reason cited in the statutory declaration is wrong the order is regarded as invalid and a new order has to be petitioned for. This decision obviously increases the need for care in the completion of every document upon which the order is made, for it is not difficult to imagine the awkward situations which might arise in such circumstances. Article 18 of the Regulations, in which the requirements as to medical certificates and statutory declarations are laid down, thus calls for still closer attention.

Detailed Regulations

Parts IV to IX are concerned with the certification of institutions and houses for defectives; their management; their inspection and visitation by the Board's commissioners and inspectors and other official visitors. These regulations, and especially those relating to management and to the various provisions—exercise, instruction, work, games, amusements, and recreation—to be made by the committees of management and the superintendents, are numerous and detailed.

In Part X some of the former regulations have been modified in detail with a view to the removal of certain difficulties which in the past have been obstacles in the way of obtaining suitable guardians for defectives. As the success or failure of any system of guardianship or family care is decided not by the amount of inspection or degree of central control, but by the quality of the guardians, it is greatly to be hoped that the modifications made by the Board will have the effect it desires, and that this form of provision for the mentally defective, still regarded by some with misgiving, will take its true place in public esteem as of immediate benefit to public and patients alike, and as playing an indispensable part in the training of all defectives capable of adaptation to their ordinary social environment.

Another provision in this part which will be noted with satisfaction (Article 80) is that the responsible local authority in the case of an aided patient, and in any other case the guardian, shall make arrangements to the satisfaction of the Board for the provision of suitable medical attendance for the patient. The Board express the view that guardians should not find it necessary to have recourse to a relieving officer to secure medical attend-

ance, but that provision should be made under the Mental Deficiency Acts.

Information for Visitors

The parts immediately following—that is, Parts XI and XII—relate only to procedure in transfers from institution to institution and transfers between institutions and guardians, but in the concluding Part XIV two points may be noticed: Article 103 defines the procedure to be followed in the consideration of cases by the visitors of institutions, etc., for defectives appointed by justices of counties and quarter sessions boroughs. The Board attach particular importance to the careful observance of this article, which has been drafted to facilitate the work of the visitors in carrying out their duties under Section 11 of the Mental Deficiency Act of 1913. It will be recalled that this section deals with the duration of detention under orders, and as the visitors, before the expiration of the order, visit the defective or summon him to attend on them and "inquire into his mental condition and the means of care and supervision which would be available if he were discharged and all the circumstances of the case," their duties are often as anxious and difficult for them as they are fateful for the patient. It is therefore gravely important that the visitors should have before them the fullest possible information concerning each case.

Miscellaneous Provisions

The second point, a minor one, is that the form of medical certificate (Form P.4) hitherto in use by medical practitioners has received an addition in the shape of a citation by the medical practitioner giving the certificate that he has read the definitions prescribed by Section 1 of the Act of 1927, which are set out on the form. Also the period of time between the examination of the patient and the presentation of the petition has been extended from seven to twenty-one days. It should be added that in the schedule which follows the Regulations copies of forms to be used are printed, as is usual.

Lastly, it may be added that Article 112 of the Regulations concerning the powers and duties of local authorities in respect of defectives who are or might be dealt with under the Lunacy and Mental Treatment Acts received the formal concurrence of the Lord Chancellor, from whose department has also been issued new rules[3] concerning mental deficiency. These rules deal with the procedure when a court of summary jurisdiction has to determine the place of residence of a defective; applications for transfer of liability; and the notice to the council with the usual scheduled copies of appropriate forms.

[3] Statutory Rules and Orders, 1933, No. 1091 L 31. Mental Deficiency, England. The Summary Jurisdiction (Mental Deficiency Act) Rules, 1933. Dated December 14th, 1933. (Id.)

MENTAL HYGIENE IN THE COMMUNITY

A PANORAMIC SKETCH

A book dealing with mental disorders in the modern social state under the title *Mental Hygiene in the Community*[1] comes from America. Its author is Miss Clara Bassett, whose position in New York as consultant in psychiatric social work to the National Committee for Mental Hygiene enables her to write with the power which intimate and wide knowledge of her subject confers. Her endeavour, she says, is to present in as brief a form as possible a panoramic sketch of the various ways in which mental hygiene may be of importance and value; the places in the present organization of society where it may possibly function with profit; information regarding local situations that may be useful in the preliminary study and planning of programmes for the promotion of mental health; and description of a variety of mental hygiene activities as samples of experiments in operation elsewhere. The author believes that mental hygiene, which is still "in its swaddling clothes," has not yet reached that stage of scientific precision which may enable it to offer concrete effective solutions for the many complex problems it has undertaken to study, and her aim has not been, therefore, to prescribe activities which any community ought to follow, but rather to show the breadth and scope of mental hygiene and to stimulate interest and experimentation in this important branch of social service. This modest purpose she has more than fulfilled.

Social Maladjustment and Mental Disorder

Recognizing the causal relations which subsist between social maladjustments or disharmonies and mental disorders, and that, in consequence, effective systems of mental hygiene must extend over and include workers in the whole range of social activities, the author discusses in separate chapters medicine, nursing, social service agencies, delinquency and law, pre-school and school children and education, the Church, industry, recreation, and, lastly, psychiatric institutions in relation to mental hygiene. Under "Mental Hygiene and Medicine" the author says that the physician can no longer safely regard the human being "as an interesting vehicle containing some fascinating disease processes" (a phrase quoted from Bernard Hart) or as "the more or less incidental container of an interesting biochemical, physiological, or bacteriological situation," and she emphasizes the need for a more thorough training in psychiatry for the general practitioner and a greater familiarity with mental hygiene in its application to both physical and mental diseases. Though writing only of the United States, it is possible that her remarks on this point may have a wider application: her description of the family physician who happens to be uninterested in mental and emotional problems, and who, when confronted with patients complaining of vague pains, backache, sleeplessness, and "dizzy spells," etc., for which careful physical examination reveals no physical basis, tells them their troubles are imaginary and that they should go home and "buck up" or "forget it" or gives them the equally futile and destructive advice to take a rest and go for a trip and change of scene, may not be applicable only to America. In this connexion she quotes Dr. F. G. Ebaugh as reporting that of sixty medical schools that he visited psychiatry functioned as a separate department in only nineteen; as a department combined with neurology in fifteen; and as a subdepartment of medicine in twenty-five. As a result "the student gains the feeling that mental disease is some out of the ordinary happening with no past and no future, and that his duty is merely to recognize and to turn over to the specialist any such patients who may happen to come his way."

To correct this view of the place and importance of mental diseases the author quotes some striking figures: among others, that one out of every twenty-two of New York's population of 11,500,000 is admitted to in-patient treatment for nervous or mental disease during the lifetime of one generation; that in the State of New Jersey the hospital beds for nervous and mental disease form 52.3 per cent. of the hospital beds for all cases; and that of the 20,000 suicides and 35,000 attempted suicides which occur annually in America it is computed that about one-third present psychotic symptoms. These figures undoubtedly reveal only a part, and possibly a small part, of the social problem, the solution of which must depend largely upon the effectiveness of measures of mental hygiene. In formulating these measures and carrying

[1] *Mental Hygiene in the Community*. By Clara Bassett. New York: The Macmillan Company; London: Macmillan and Co., Ltd. (Pp. 394; 15s. net.)

them into effect the part of medicine is of first importance and adequate training in psychiatry essential.

"Only when medical schools in their medical training courses and in their hospital and clinical services combine an equal knowledge of and consideration for the mental and emotional aspects of human personality with the scientific understanding of the physical organism will headway be made in the adequate study, treatment, and prevention of nervous and mental diseases, the financial and social cost of which is one of the most stupendous community problems to-day."

Delinquency and the Law

Turning to the chapter "Delinquency and Law," the goal of mental hygiene in this relation is defined as the individualization of the study, diagnosis, and treatment of each delinquent, and the whole history of penology described as slow, blundering efforts of society to achieve this goal. Society's unquestioning reliance on the effectiveness of legal and institutional handling of delinquents the author considers sadly mistaken, stupendously expensive, and almost wholly unsuccessful. The development of medical science, however, the further evolution of psychiatry, and the elaboration and application of intelligence tests to delinquents is already of some effect, and in time cannot but profoundly influence penological methods and legal processes. She points out that the humane and scientific treatment of delinquents depends on whether the lawyer and judge bring to their work "something more than a knowledge of laws, precedents, legal procedures, and nimble minds which work with cleverness in the chess-game of courtroom battles"; in fact, an understanding of the physical, psychological, and social aspects of personality.

In the understanding of social problems and in the formation of a background of scientific information and experience which will enable future lawyers and judges to co-operate in an intelligent way with probation officers, social service agencies, psychiatric clinics, and progressive institutions for delinquents, Miss Bassett finds almost all law schools sadly defective and their curricula mediaeval.

Industry and Mental Health

In dealing with "Mental Hygiene and Industry," the author has no difficulty in demonstrating the great and practical benefits, both in efficiency and in output, which have followed the application of experimental psychology. These are fitly described and appraised. But she is advocating much more than benefits to industry, as the following quotation from an absorbingly interesting chapter shows. "The theory that the chief purpose of industry is to provide a few 'rugged individualists' with the means for gaining excessive power and wealth is passing into the discard. There can be little hope for the solution of most of the pressing social problems which confront modern society until industry is conceived of as a co-operative social enterprise for supplying, in the best possible manner, the means for satisfying fundamental human needs, with clear-cut responsibility, not only for the conservation and growth of all its workers, but for the conscious improvement of community life."

In a work full of cogent reasoning and well-documented fact it is clear that what the author urges, though she does not use the term, is a "New Deal" in every department of life, based on the concept of man as a unitary being, whose physical, mental, emotional, and social reactions constitute but different aspects of one individual whole; that maladjustments, from whatever cause, individual or social, tend to fix and distort the harmonious unfolding of personality at one or other stage of its development from conception to the grave; and that a true mental hygiene must therefore embrace the study of the whole personality, individual and environmental.

CONGRESS OF MILITARY MEDICINE AND PHARMACY

The eighth international congress of military medicine and pharmacy was held in Brussels during July, and was attended by delegates from thirty-eight countries. The first matter for discussion was the organization and functioning of health services in mountain warfare, and it was agreed that units must be specially light and mobile so that they might keep in close touch with the fighting forces. Further study would be given to the main problem of mountain transport with a view to making it more rapid, comfortable, and effective. Investigation was similarly required in the special question of first aid and hospital treatment.

The second matter related to the selection and training of candidates for armed forces. Military activities were tending to multiply in extent and diversity. It was therefore necessary that examinations of new entrants should be more specialized, and should take into account physical, physiological, biological, and psychical characteristics, introducing suitable differentiating tests of capacity—as was already done for workers in industry and civil life—and remembering the constant need for men able to take definite and prompt action in various emergencies. On the subject of abdominal wounds it was concluded that the possibility of immediate or remote complications must always be borne in mind at any medical examination, the commonest and most important of these complications being the formation of adhesions. Treatment of the sequels of abdominal wounds must always be preventive, great care being taken to guard against infection and too early and injudicious surgical intervention. A specialist service would be necessary to ensure this whenever military conditions rendered it possible. Treatment in hospital was an essential sequel to operation in view of its bearing on the remote results. The testing of food and drink supplied to the men called for further investigation; laboratory examinations should be regularized, and so render the results of tests uniformly comparable. In view of the increasing importance attached to mouth and dental conditions it was recommended that all countries should arrange for a specialist service to deal with recruits on enlistment and also during their later career in the armed forces. Those in charge of this branch would need special training in the treatment of injuries of the face, and in practice should take charge of all these cases. A comparative study was made of the medical services in the land, sea, and air forces in different countries; it was shown that a tendency to distinctive specialization was growing more evident, and was desirable in view of the better medical work that could be achieved in this way. As usual, the international office of medico-military documentation held its meetings during the congress, and some interesting contributions were received. Primary tuberculosis in the army, the diagnosis of occult syphilis, "Peruvian wart," and the findings of the recent congress of medical aviation were some of the subjects dealt with. It was announced that at the ninth international congress of military medicine and pharmacy, to be held at Bucarest in May, 1937, attention would be directed to the following subjects: medical aspects of combined air and terrestrial warfare; the treatment of those who had been both wounded and gassed; the organization and working of a surgical service for mechanized troops; the utilization of colorimetric methods in testing in medico-military laboratories; dentally deficient soldiers in peace time and in war; and the feeding of troops, including the wounded and diseased, in peace and war.

The will of the Hon. W. E. Collins, C.M.G., M.B., of Wellington, New Zealand, whose death we recorded on August 18th, 1934, includes bequests of £250 each to the New Zealand Branch of the British Medical Association for the New Zealand Medical Benevolent Fund, and to the Otago University for its medical school.

British Medical Journal

SATURDAY, AUGUST 17th, 1935

MATERNAL MORTALITY: THE NEED FOR ACTION

The appearance of the Scottish report on maternal morbidity and mortality, which was summarized in our columns on August 10th (p. 265), may well be regarded as worthily closing the long phase of official inquiry into this subject, which began with the report by Sir Arthur Newsholme to the Local Government Board in 1915. One aspect after another of this vast subject has been explored and reported upon at length both by the Ministry of Health and by the Scottish Department of Health. Departmental Committees have been set up, specially qualified investigators have explored particular aspects of the problem, and the annual reports of the Chief Medical Officer have yearly descanted with informative prolixity upon the whole field of maternity service. The United States have followed us with reports dealing with the whole country by committees set up by President Hoover's White House Conference in 1930, and another dealing with New York City by the Academy of Medicine of New York. The same dismal tale has been told in both countries, and notwithstanding all this inquiry there is no sign of check to the rising toll of mortality in child-bearing. These able and instructive reports have all shown a discouraging lack of practical constructive ideas; the additional inquiries, however, which the Minister of Health has announced into the special problems of the "black areas" will be hopefully awaited, since the concentration of effort on particular problems may perchance yield more important lessons than any that have yet appeared.

Some months ago one of our correspondents suggested that as many as possible of the readers of the *British Medical Journal* should write down what he or she considered to be "the fundamental cause of the high maternal mortality," and send it to the Editor, not necessarily for publication. This naïve suggestion represents an attitude of mind which a perusal of the reports referred to above should completely dispel. It is, in fact, impossible to name "the fundamental cause" of maternal mortality, which is the outcome of a veritable complex of causes whose constitution varies in different areas, and may also vary seasonally and annually in the same area. A web so complex as this can best be unravelled by following up one clear thread at a time; if we wait until all the problems involved in the entanglement can be simultaneously dealt with, progress may be indefinitely delayed.

From non-official sources constructive suggestions have come which, if acted upon, may well lead to a general advance along the whole line. Notable among these suggestions are the scheme of the British Medical Association for a National Maternity Service (1929) and the more recent plan of the Joint Council of Midwifery for the establishment of a salaried service of midwives under the local authorities. In another direction it is urged that the obligation should be laid upon all local authorities to make full use of the discretionary powers which they now possess under the Maternity and Child Welfare Acts to improve the maternity services in their areas. In none of these matters can action be effectively taken except by the public health authorities or by Parliament. Other parts of the problem are more directly the concern of the medical profession, such as the improvement and extension of the training of doctors and midwives, and the more efficient staffing, organization, and equipment of maternity hospitals and maternity departments. The British College of Obstetricians and Gynaecologists would be well qualified to take a leading part in working out the changes which are called for in this part of our maternity system.

The fact is that we know sufficiently well what is wrong with our maternity service to make a start in the work of reform, but we have hitherto been lacking in the courage and initiative which decided action requires. The time for lamentation is past; long enough we have permitted ourselves "in the mind to suffer" the reproach of our high maternal mortality. Courageous administrative action may seem like taking arms "against a sea of troubles," but it is certain that only by opposing those troubles shall we end them. It would be better to make mistakes than to remain passive spectators of what we so loudly and continuously deplore. It is useless to wait for unanimity in recommendations; decisions must be taken by the public health authorities upon the best expert advice which is available to them, but they must not wait too long upon the experts. When they take up their task they will need, and will deserve, the unstinted support of the medical profession, for the work is certain to be long and arduous, and results may at first be meagre, but every fault corrected will make the next step easier.

FLUMINA FONTIS

At the annual conference of the Society of Chemical Industry held in Glasgow lately the presidential address was delivered by Mr. Edwin Thompson, formerly Lord Mayor of Liverpool and chairman of the Liverpool Waterworks Committee. Having chosen national water supplies as his subject for the occasion, the president ranged widely over a varied field, in some cases usefully reviewing problems which still await solution, in others placing on record conclusions which have received the general assent. The question of ground water supplies belongs to the former group. Shallow wells for single houses or small communities are often

subject to local pollutions, and the obvious remedy, the introduction of a piped supply from a reliable source, may present formidable difficulties on the side of finance, though the Rural Water Supplies Act of 1934 has afforded some relief in this particular. Deep wells, too, in populous places have their unsatisfactory conditions, inasmuch as there is no general control over the water-bearing areas; and the inconsiderate sinking of new bores may withdraw water from established users, so creating a fresh difficulty that outweighs any advantage gained. The deep-water level under London is sinking at an increasing rate, having accelerated within the last twenty-five years from $1\frac{1}{2}$ to 4 feet per annum. We may add that even artesian water is by no means proof against competitive boring. The bore at Grenoble in Paris lost power when a rival bore was opened at Passy, and in Australia a number of drilled wells have begun to feel the effects of the continuous draw-off. As touching England at the present time an investigation of ground water sources, followed by their regulation, was held by Mr. Thompson in his address to be a real necessity.

A question belonging to the latter group of his problems, those concerning which there is general agreement, is that of the respective responsibilities of authorities polluting rivers with sewage and authorities using the same river down-stream as a source of drinking-water. We may note that common consent in this case was not achieved without mental conflict. Most of the earlier Water Commissions in England down to 1868 appear to have looked forward to the day when the gravely polluted streams of their time would be restored to their native purity. "The right way," one Commission said, "to dispose of town sewage is to apply it to the land, and towns polluting rivers with sewage may reasonably be asked to desist." The Royal Commission of 1898, whose work still sets the fashion, observed that all sewage effluents, even the best, were liable to give rise to disease, but saw no possibility of excluding them entirely from rivers. The most that could be demanded was that they should not be so impure as to ruin the amenity of the streams into which they were discharged. The native purity ideal has thus been abandoned, and any down-stream authority in England proposing to drink polluted water is faced with the clear responsibility of purifying it first. In this connexion it is of interest that in North America, where the problem of river purification is locally more urgent than here, bacterial standards are in use to determine the limit of safe loading for water purification plant—that is to say, the degree of bacterial uncleanness to which a river may be permitted to descend before it is classed as too foul for any attempt at effective purification to be made. As the population of this country increases, side by side with growing pollution and a growing demand for water, the introduction for England of safe-loading standards on the North American model would have a useful standardizing value. It merits consideration.

RETICULOCYTE REACTIONS

The progress of haematology in the last decade has been greatly facilitated by the use of quantitative measurements. The original experiments of Whipple, which were the inspiration for the subsequent advance in knowledge of pernicious anaemia, were designed to measure the absolute amounts of haemoglobin manufactured by animals on different diets. Minot and his associates perfected the technique of estimating the rate of blood regeneration by supravital staining of the erythrocytes and enumeration of the immature red cells or reticulocytes revealed by these stains. The reticulocyte count has now become an indispensable tool of haematological research, and the review by Minot and Castle of the interpretation of reticulocyte reactions, which appeared in the *Lancet* of August 10th, is an able account of a subject to which the authors themselves have made great contributions.

In health only a small percentage of immature red cells or reticulocytes is present—not over 1 per cent. in adults. In anaemia due to acute blood loss an orderly rise of reticulocytes in the circulating blood begins, reaches a maximum, and ends within a few days after the haemorrhage. The same phenomenon is observed in anaemia due to deficiency of one of the haematinic principles when treatment with the appropriate substance is instituted. The percentage of reticulocytes increases within a period of two to ten days, reaches a maximum during the next three to ten days, and then declines steadily over a period somewhat longer than that taken by the increase, until the initial value is regained. At the outset the reticulocytes are young forms, but later they are older and contain less basophil material. The reticulocyte crisis is accompanied and followed by a rise of red cells and haemoglobin. In pernicious anaemia, in which the phenomenon has been most closely studied, the reticulocyte crisis has been shown to be proportionate to the initial red-cell level and to depend on the reactivity of the bone marrow. Age, infection, and damage to vital organs, such as the arteries, the liver, or the central nervous system, may depress or completely inhibit the reticulocyte crisis. The crisis is higher and briefer when the therapeutic substance is given in a single massive dose or by injection than when it is given in uniform daily doses by mouth, but if the dosage is optimal the total number of reticulocytes poured out is approximately the same in either case. If dosage is sub-optimal the reticulocyte crisis is naturally low, and a second crisis may then be obtained by giving treatment in optimal amounts. The reaction is obviously a more delicate and quicker test of treatment than the estimation of the red cells and haemoglobin alone, and it has been used to analyse the causation of anaemia and to check the potency of therapeutic agents. If anaemia is due to deficiency of a nutritional principle, a reticulocyte crisis may be expected on making good the deficiency. In idiopathic hypochromic anaemia there

is no response to liver but a reticulocyte reaction to iron ; in sprue there may be dual deficiency and reticulocytoses after both liver and iron. The single reticulocyte crisis may be used as a test of the potency of therapeutic agents, the increase in reticulocytes on a given dosage of the substance to be tested being compared with standard values. This method is time-consuming because of individual variations, and Minot and Castle prefer the method of the double reticulocyte crisis: here the unknown substance may be given first, and a standard preparation of known potency later, to the same patient.

Preparations on the market for treatment of anaemia are very variable and at times inactive, and it is suggested that all acceptable products should indicate what daily amount (by mouth or by injection) is enough to produce a maximum reticulocyte response. The difficulty about this suggestion is that liver extracts are used for such a variety of troubles—asthma, carbuncles, disseminated sclerosis, debility, ascites, neurosis, etc.—that far more batches of anti-anaemic material are produced in this country than there are patients with anaemia to test them on. The research worker naturally prefers to devote his energies to problems such as the chemical formula of the liver principle, the exact nature of intrinsic and extrinsic factors, the relative potency of desiccated stomach and pyloro-duodenal extracts, etc., rather than to sacrifice himself and his patients for the benefit of the manufacturing druggist. Two suggestions which are more immediately practicable are that whenever possible patients with untreated pernicious anaemia should be referred to hospitals or physicians who are engaged in active research on anaemia, so that their response to treatment may be utilized in the study of the disease. And, secondly, those who wish to use the reticulocyte reaction as a tool for research should carefully study both Minot and Castle's paper and the rules laid down by the Association of Clinical Pathologists,[1] for the method has many pitfalls for the inexperienced.

SEA-SICKNESS

Many and various have been the aetiological theories and vaunted cures of sea-sickness, and a serious attempt to reconcile them merits careful consideration. Surgeon Lieutenant-Commander J. J. Keevil[2] suggests that a unifying medium is to be found in the psychological change common to every hypothesis as to its causes. He believes that sea-sickness is a neurosis of the sympathetic system. Certain individuals possessing but slight cortical control over the vegetative system cannot co-ordinate or translate into effective action the stimuli from a rapidly changing environment. Persistent sufferers fall into a group showing lack of psychological as well as physiological adaptability, the symptoms indicating a state of "amphoneurotonia" in which vagotonia predominates and which cannot be distinguished from the primitive reaction to fear. Keevil considers that transient visceroptosis is always present in sea-sickness, being a mechanical cause of the vomiting, and subscribes to the belief that the carotid sinus reflex is responsible for the physical changes accompanying the condition and for the slowing of the pulse, which is shown by the effect of atropine to be independent of vagotonia. These views are argued carefully, with apposite references to the author's own experience and to the copious literature on the subject. From the prophylactic and therapeutic points of view certain deductions emerge. Some will think that the author has been a little too quick in discarding the acidosis theory of causation, since there is clinical evidence of the value of antacids in prophylaxis despite his own disappointing experience of them. No one will question the value of mental distraction and active occupation when these can be secured. The firm abdominal binder over the hypogastrium—not higher—is deservedly commended, as are regular breathing exercises, which have the multiple effect of preserving the respiratory rhythm of the diaphragm, preventing its sudden forcible contraction, and of promoting the rhythmical tonic sympathetic stimulation of the blood vessels which reduces the unduly long expiratory phase and anoxaemia. The author considers, however, that vasomotor spasm is of secondary importance in producing symptoms, and may therefore be neglected in treatment, which must be directed to the reducing of vagotonia by vagotropic drugs such as atropine and hyoscine. He has found that twenty minims of tincture of belladonna may be given three times a day without toxic effect and with relief to the sea-sickness. He is probably correct in affirming that cases of failure have been due to inadequate dosage: the reaction is individual, and idiosyncrasy has to be borne in mind ; paralysis of accommodation and dryness of the mouth give adequate warning of approaching overdosage. Where liquids are not retained atropine sulphate may be given hypodermically, supplemented by hyoscine hydrobromide ; but the repeated use of hyoscine causes depression and impairment of memory. There is some indication that liver therapy may be valuable as a prophylactic, though it seems to have also a symptomatic effect. In acute cases, where vomiting is severe and prolonged, the induction of sleep by hyoscine hydrobromide, potassium bromide, and chloral has proved satisfactory. Keevil thinks that this fact affords another instance of replacement therapy, the nervous energy being diverted into another channel. He cites examples of cases in which a severe emetic form of sea-sickness had quite suddenly given place to the hypnotic form, even to the extent of simulating petit mal. This is a very comprehensive and thoughtful study of "mal de mer," and psychologists might well examine this field where the functional and organic meet. There is an obvious parallel with such conditions as duodenal stasis, spastic constipation, visceroptosis, and mucous colitis, and a closer examination of the syndrome on these lines may illumine the problem of those other consequences of vegetative imbalance—namely, cyclical vomiting, migraine, and vaso-vagal syncope.

[1] See Whitby and Britton, *Disorders of the Blood*, J. and A. Churchill, 1935, p. 148.
[2] *Journ. Royal Naval Med. Service*, July, 1935, p. 216.

WASTING AND CACHEXIA OF HYPOPHYSEAL ORIGIN

F. Stroebe[1] and J. Wahlberg[2] draw attention to a syndrome which is similar to that of Simmonds's disease, but less pronounced. Simmonds in 1914 described as "cachexia of hypophyseal origin" a condition due to destructive processes—post-embolic, luetic, tuberculous, or neoplastic—in the pituitary, which is characterized by extreme cachexia and asthenia, mandibular and dental atrophy, amenorrhoea, genital atrophy, anorexia, constipation, hypopyrexia, and by diminution in basal metabolism, blood pressure, pulse frequency, and blood sugar. The contrast with acromegaly is obvious, and Simmonds's evidence that the symptoms are due to endocrine insufficiency in the pituitary has been supported by Silver's report[3] in 1933 of forty-one cases in which the diagnosis was verified by necropsy. Of Silver's cases all but six were females. Stroebe's and Wahlberg's patients had similar symptoms to a minor degree, and both authors ascribe them to functional as distinguished from organic affection (underactivity) of the pituitary in its stimulant actions on other endocrine glands, notably the thyroid, sex glands, and suprarenals. Response to endocrine treatment, and apparent cures, confirm this view of the minor syndrome, which v. Bergmann, who previously reported fifteen cases,[4] has called "hypophyseal wasting" and Wahlberg would call "asthenia gravis hypophyseogenea." According to Stroebe the typical patient may consult a physician or a gynaecologist. She is pale and wasted, with protruding pelvis, scanty covering of hair in axillae and on the pubes, and some cyanosis of the extremities. Loss of appetite, obstinate constipation, and amenorrhoea, primary or secondary, are reported: the basal metabolism is a little lowered (by about 15 per cent.). In treatment pituitary extracts have been more successful than ovarian, but implantations of fresh pig or calf pituitary are recommended by v. Bergmann, and appear to have brought about general improvement and also a return of menstruation in several cases. Stroebe reports as a new symptom, in some of these minor cases of Simmonds's disease, a venous sclerosis: the antecubital veins are inelastic, hard, and colourless, and roll under the finger as cylindrical cords, resembling nerve trunks. In two of his cases he had good results from treatment by thyroid in fairly large doses, as suggested by Josefson. In the aetiology of these pituitary syndromes puberty and childbirth often seem to have played a determining part. The amenorrhoea of the established disease is regarded as due to ovarian, secondary to pituitary, hypofunction; but one case of pregnancy going to term has recently been described by W. Stoeckel.[5] To give thyroid to emaciated patients may appear inadvisable: in point of fact it seemed to cause a further fall of weight, but after its suspension the weight rose far beyond previous levels and all symptoms except the amenorrhoea were very notably improved.

[1] *Zentralbl. f. Gynäk.*, May 18th, 1935, p. 1156.
[2] *Acta Med. Scand.*, 1935, vi, 551.
[3] *Arch. Int. Med.*, li, 175.
[4] *Deut. med. Woch.*, 1934, 123.
[5] *Zentralbl. f. Gynäk.*, May 18th, 1935, p. 1159.

DIAGNOSIS OF ORGANIC SYNDROMES BY DREAMS

"Comments upon a Case of Periventricular Epilepsy" is the deceptively demure title chosen by the contributor whose account of such a case appears in our columns to-day. The clinical account which Dr. Davie has presented in detail is one of great interest, but many readers will find even more interest in the discussion which follows. With skilful technique—and it is no disparagement to say that it is a technique more often associated with the writing of "thrillers" than with that of scientific discourses—he has contrived to conceal from us until the very end the dramatic *dénouement* which is the culmination of his hypothesis. It would appear that the author's first approach to the study of his patient was along orthodox lines, and he was content (somewhat reluctantly it seems) to account for all the clinical phenomena by the assumption of some inflammatory patch disorganizing the neural mechanisms in the floor of the third ventricle of the brain. Then, pursuing a psychological line of investigation, he reached a point when he was prepared to forsake the physiological for the psychological mode of explanation, all the more so because of a dream of the patient which he had studied. It was a dream of a pond that was drained and in the slime at the foot of it were two extinct animals, miniature in size, one a minute mastodon. The author bethought him of sending this dream to Dr. Jung, who on several occasions apparently has been able to diagnose somatic derangements by dream analysis. On this occasion Jung pronounced the dream to be indicative of an organic derangement in the brain — an interruption in the circulation of the cerebro-spinal fluid. One of the most important discoveries of the present century has been that of man's dependence upon psychological forces within himself but exterior to his consciousness. Of great importance too, but in another realm of study, has been the discovery of the functions of the deep-seated cerebral structures which are so intimately concerned with the expression of the instinctual and affective life. Dr. Davie has pursued a strange route in his attempt to correlate physiological fact with psychological theory. In the dim and tortuous paths of oneirology he has discovered under Dr. Jung's guidance a subterranean corroboration of the surface diagnosis. It is perhaps in keeping with the hazard and obscurity of this adventure that, though the site of the mischief is declared, its origin remains conjectural.

THE ACADEMIC ASSISTANCE COUNCIL

The annual report of the Academic Assistance Council, which brings the story of its work down to the end of June, 1935, is a record of which the Council may well be proud. Edmund Burke, in the earlier and more glorious part of his career, said that he did not know the method of drawing up an indictment against a whole people, but eventually forgot his own wise caution. Many men who are not Burkes have done so too. The sympathy of too many men with the victims of oppression takes the form of a fluent denunciation of

oppressors. From the beginning the Academic Assistance Council conceived its duty to be to attempt to retain for the advancement of science and scholarship the services of persons who, for racial or political reasons, had been deprived of their means of living, and to abstain rigorously from stigmatizing the persons or the political theories responsible for the misfortunes of individuals. This policy has been faithfully pursued. Neither in this report nor in any other document issued by the Council is any statement made which the most sensitive of foreign Governments could construe as an attack upon its agents. The practical results are these: of 1,300 displaced scholars on the Council's register approximately 650 have left Germany, and of these as many as 287 are now permanently placed. Of these permanent placements, 76 relate to workers in the field of medicine and its ancillary sciences, 40 to chemists, 37 to economists, 25 to physicists, and 20 to mathematicians. Of those permanently placed, 76 are in the United States of America, 57 in Great Britain, 38 in Turkey, and 30 in Palestine. Temporary placements of 336 scholars or scientists have been effected. Of these 67 are workers in the medical field, and Great Britain with 155 has a larger proportion of such guests than any other country. The next largest number is 58 in the United States of America. During the year the Council received in donations and subscriptions (mainly in small sums) rather more than £20,000, and block grants from Jewish charitable organizations to the value of £3,500. The present policy of the Council is to end its emergency grants by July 31st, 1936. It is recognized that even by then some deserving scholars and scientists will not have been re-established, but the Council feels that to continue emergency work beyond a period of three years would be hard to justify. If sufficient financial support is available the Council hopes to establish a limited number of research fellowships in order to maintain in this country scholars of special distinction or promise, particularly in the humanities and those subjects in which it is most difficult to discover semi-permanent positions elsewhere. To the present-day representatives of the class which, thirty-five years ago, cultivated the sport of "killing Kruger with their mouths," this is an unheroic story. To those who prefer the unostentatious relief of suffering to cheap rhetoric it will appeal differently. There can be few organizations engaged in the practical defence of human intellectual liberty more worthy of support.

TWO SEROLOGICAL MISHAPS

It is of importance that our readers should know of untoward happenings connected with sera or prophylactics. Considerable stir was caused recently in Philadelphia by the prosecution of the head of a serum laboratory and a health official for conspiracy because some "time-expired" diphtheria antitoxin was retested and, being found still to contain well above the reputed number of units, was redated and reissued. One or two children suffering from diphtheria had died notwithstanding treatment with this serum, but leading immunologists gave evidence on behalf of the defendants that it was quite justifiable to use the antitoxin, which was still of proper potency. The judge discharged both defendants. The English official Regulations require the dating to run from the time of the last satisfactory test, and this evidently provides full safety. One other incident contains a grave lesson. In San Francisco early this year a group of children were being injected with diphtheria prophylactic. The commercial formol-toxoid ran short and other material was hurriedly brought from the ice-box of a laboratory in the hospital. Unfortunately this was *toxin* prepared for experimental work and clearly so labelled. Apparently some fifteen guinea-pig lethal doses were injected into each of five Schick-positive children. When the mistake was detected next day the health authorities did everything possible and antitoxin was given intravenously to the children; but the toxin had apparently already been absorbed and two of the children died a week or more later of myocardial failure. The other three were seriously affected by the toxin, but recovered. In these days, when such potent materials as scarlet fever and staphylococcus toxin prophylactics are in daily use, it behoves us all to stamp deep in our minds the ancient excellent maxim: "Read the Label."

SECOND BATH RHEUMATIC CONFERENCE

The bicentenary of the Royal Mineral Water Hospital falls due in 1937, and it has been suggested that this should be celebrated by holding an International Rheumatic Conference in Bath some time that year on lines similar to that of the conference which proved such a success in 1928. It is hoped that this will coincide with the laying of the foundation stone of a new Mineral Water Hospital. For some time it has been the intention of the Governors to remodel the old hospital, and plans had been drawn up for this purpose. But recently a site has become available only 200 feet from one of the main sources of the natural water, and twice as large as the present hospital site. On the south side of this there will be free access to a small park, so that the new hospital will have full advantage of sun and fresh air, which are so essential in the treatment of chronic disease. In view of this splendid opportunity the Governors decided that it was better to build an entirely new hospital than to spend money on the old one, which was built 200 years ago and is in no way adapted to modern conditions. The corporation of Bath are doing all in their power to help, and it is hoped to build a first-class hospital which will be the finest mineral-water hospital in Europe and worthy of the great traditions of Bath as a medical centre.

We regret to announce the death of Surgeon Vice-Admiral Sir James Porter, formerly Medical Director-General R.N., at the age of 83.

The Library of the British Medical Association was closed for three weeks from Saturday, August 10th, for the purpose of redecoration and repair. It will reopen on Monday, September 2nd, at 10 a.m.

POLIOMYELITIS AND CEREBRO-SPINAL FEVER IN GERMANY

[FROM A MEDICAL CORRESPONDENT IN BERLIN]

In the *Journal* of April 13th, 1935 (p. 768), a comparison was drawn between the incidence and mortality of scarlet fever and diphtheria in Germany and England and Wales during the last quinquennium. It will be of some interest to examine German experience of acute poliomyelitis and cerebro-spinal fever during the same period, since both are notifiable diseases and, as is well known, mainly affect children. The following are the significant data:

Year	Poliomyelitis			Epidemic Meningitis		
	Cases	Deaths	Fatality Rate Per cent.	Cases	Deaths	Fatality Rate Per cent.
1930	1,353	136	10.0	663	351	52.9
1931	1,623	180	11.1	574	307	53.5
1932	3,869	358	9.2	518	255	49.4
1933	1,249	131	10.5	593	280	46.8
1934	1,699	151	8.9	1,016	423	41.6

In comparison with scarlet fever and diphtheria, both diseases are characterized by a much higher fatality and, fortunately, lower incidence. The fatality of poliomyelitis approximates to 10 per cent., that of cerebro-spinal fever to as much as 50 per cent., although in the last completed year there has been some reduction in both. Whether this is due to a real improvement, however, or merely to an increasing inclusion of milder cases and carriers in the statistics is a question which cannot be answered from the statistical data.

A comparison of individual years is not without interest. It will be noted that, for poliomyelitis, 1932, with 3,869 cases, was the year of maximum, followed by a reduction to 1,249 in 1933. On the other hand, for cerebro-spinal meningitis, 1934, with 1,016 cases and 423 deaths, was the year of maximum, and there is evidence of continued increase in the current year. According to the weekly returns of the Reichsgesundheitsamt, in the first twenty-two weeks of 1935 (approximately the first five months) 711 cases and 299 deaths from cerebro-spinal fever have been notified, as compared with 496 cases and 242 deaths in the corresponding period of the previous year. The increases for poliomyelitis and scarlet fever are relatively small; for cerebro-spinal fever and diphtheria considerable.

Cases (and deaths) from the undermentioned diseases in the first twenty-two weeks of each year:

Year	Diphtheria	Scarlet Fever	Cerebro-spinal Fever	Acute Poliomyelitis
1935	57,058 (2,633)	40,483 (316)	711 (299)	242 (29)
1934	34,529 (1,639)	36,416 (344)	496 (242)	197 (24)
1933	29,176 (1,513)	22,421 (210)	317 (161)	226 (32)

It will be seen that all the diseases mentioned show some increase, but, so far as appears, there is hardly any change in fatality rate in comparison with that of the previous year. The increased incidence has of course given ground for such precautionary measures as are practicable.

Fatality Rates

A word may be added on the question of fatality rates. The contrast between cerebro-spinal fever and scarlet fever is so great that, in spite of the immensely greater incidence of the latter, the two diseases in 1935 have so far been responsible for almost the same numbers of deaths—299 and 316. For every 128 cases of scarlet fever, according to these figures, there is one death, while on the other hand nearly every other case of cerebro-spinal fever is fatal. We have here an opportunity for specific therapy. While the residual mortality of scarlet fever can hardly be reduced save by hygienic measures directed to the prevention of the disease altogether, in cerebro-spinal fever—as indeed in diphtheria, with its fatality rate still as high as 5 per cent.—specific therapy has a part to play. By a combination of therapeutic and prophylactic methods we may reasonably expect improvement.

In poliomyelitis the fatality rate is of less importance—although it has the substantial value of some 10 per cent.—having regard to the total number of cases. As is well known, however, the distressing after-effects so complicate the general picture that mere fatality rates give no adequate impression of the gravity of the disease.

AIR-RAID PRECAUTIONS

CRITICISM OF OFFICIAL CIRCULAR

The Union of Democratic Control summoned a conference at Caxton Hall on August 9th to discuss the circular recently issued to local authorities by the Air Raid Precautions Department of the Home Office.[1] The Union had already published a tract entitled *Poison Gas*, in which the view is expressed that any scheme of air-raid protection is futile, the only defence being the absolute prevention of war. The conference was presided over by Mr. KINGSLEY MARTIN, editor of the *New Statesman*, who described the Government circular as unconvincing and fraudulent, likely to lull people into a false sense of security, and to make them believe that by buying gas masks they could purchase sufficient protection. Mr. Davidson Pratt's technical pamphlet[2] had been reviewed very seriously by the *British Medical Journal* and by the technical press generally, and in none of the reviews that he had seen was any attempt made to discredit its fundamental analysis of the real inadequacy of any defence measures for the general public; yet the Government circular has been accepted without question by bodies like the L.C.C., and even the Labour Party had officially endorsed the proposals.

Mr. J. D. BERNAL, a scientist engaged in the University of Cambridge, declared that no methods of defence could prevent heavy casualties. The evacuation of urban populations would result in incredible chaos, with starvation and pestilence due to the breakdown of transport and supplies. Gas-proof rooms were certainly a defence, but the difficulty of an air raid was its highly concentrated character and its unexpectedness, so that provision would have to be made on a huge scale everywhere to deal with an attack anywhere. Many proposals, while technically possible, were economically out of the question. This speaker mentioned that the British plan had been copied from Continental sources—from the French, who in their turn got it from the Germans—but in France the curious idea prevailed that the British were extraordinarily well prepared to resist air attack, and British preparedness was actually being used by two propagandist journals in France to stimulate French efforts in the same direction.

After brief speeches by Mr. REGINALD STAMP, a member of the L.C.C., and Mr. G. H. C. BING, a barrister, who gave some account of the rights of the citizen in protesting against official instructions, Dr. J. R. MARRACK, professor of chemical pathology, London Hospital, related his experience of gas warfare in France. He said that in the Army casualties had continued after gas masks and all methods of protection were enforced. This was due to surprise attacks, before the men had time to put on their gas masks, or to pockets of gas which remained after the attack had subsided. For some reason the British used gas clouds from cylinders right up to the end of the war, and among the special troops engaged on this service casualties up to 10 per cent. used to occur, notwithstanding the special training and equipment of the men.

[1] *British Medical Journal*, July 13th, p. 72.
[2] Ibid., June 29th, p. 1328.

During the war the gas was mostly discharged at night, because in the open during the day, owing to the heat of the sun and to the wind, which was usually stronger than at night, the gas disappeared fairly quickly. These considerations would not apply in the confined streets of towns, however, and it would be more efficient to have day-time raids, during which, of course, many more people would be caught in the open. As for the provision of gas-proof rooms, what of the large populations in London who, as it was, lived more than two to the room? How could such people set aside a gas-proof room or afford the other means of gas protection which it was officially suggested the citizen should purchase?

Mustard Gas

Speaking particularly of mustard gas, which, he said, was certain to be used unless something more efficient had been devised in the meantime (because, hanging about as it did for days, it effectively hampered the activities of a military or civil population), Professor Marrack recalled that in the early summer of 1918 the director of the defensive gas service in France was taken seriously ill, and two of his officers developed bronchitis and had to go to hospital, simply because some mischievous person had dipped the end of a penholder into mustard gas and streaked the director's chair. These were men specially trained in defence against gas warfare, and yet they had been unable to appreciate the danger from mustard gas in that room. What, then, was likely to happen to a civilian population during the days subsequent to a mustard gas raid? The impression given by the official circular was that mustard gas was not a very serious thing. It spoke of the need for washing some time afterwards, but in fact mustard gas soaked in almost immediately, and if washing did not take place within a matter of minutes there would be blistering. It spoke of washing out a drop of mustard gas which had got into the eye, but the German manual on gas warfare flatly stated that a drop of mustard gas in the eye meant blindness. There was an impression that mustard gas was a relatively humane method of warfare. That was more or less true when it was used against troops properly equipped; there were many casualties, but chiefly mild blistering. If, however, the mask was not available, mustard gas was a killing gas, causing death in the most agonizing form. He had seen a ward of twenty men who had been exposed to mustard gas without gas masks. They started dying two days after exposure, and continued to die at the rate of one or two a day for a fortnight. Intense pain was suffered, and a most distressing inability to breathe, owing to the effect of the gas on the membrane of the breathing apparatus. It was the most appalling form of death he had ever seen. Nothing short of the provision of every person with gas masks—and he did not know how babies were to be dealt with—and an abundance of gas-proof and bomb-proof shelters would suffice to minimize the appalling toll of gas casualties, apart from the further casualties which would arise from panic and disorganization of supplies.

Discussion

The suggestion was made from the body of the hall that the Government might have in reserve some secret means of defence against gas which would render all these precautions, as well as the agitation against their inadequacy, irrelevant; but it was answered that if this was so some hint might be expected in the official circular. The meeting ended in general questions and discussion, in which reports were given from a number of centres as to the intentions of the local authority with regard to the official circular. Some, in Lancashire particularly, have taken a pronounced line against it.

New Zealand

[From our Correspondent in Wellington]

Tuberculosis

A conference of hospital boards and the Department of Health was held recently in Wellington to review generally the treatment of tuberculosis in New Zealand, and, more particularly, to increase the facilities for diagnosis and treatment in the North Island, which have compared unfavourably with those available in the South Island. The organized method of coping with tuberculosis in New Zealand is based on Sir Robert Philip's plan, including the dispensary, the sanatorium, the hospital, the farm colony, and the after-care association. The death rate from tuberculosis in New Zealand is said to be the lowest in the world. Here, as elsewhere, the decline began before there was any organized campaign against the disease. In thirty-one years the death rate has been reduced by one-half—that is, the death rate for pulmonary tuberculosis from 1899 to 1903 was 7.64 per 10,000 of population, and from 1929 to 1933 only 3.49. This improvement has been effected mainly by indirect methods, such as improved hygiene and social conditions. The morbidity rate is of course much higher than the mortality rate, and it is estimated that for every death from phthisis there are at least ten cases of active pulmonary tuberculosis. It has been stated that as a general principle there should be as many beds available for tuberculous patients as there are deaths from tuberculosis. In New Zealand, however, the deaths from pulmonary tuberculosis in 1934 were 491, whereas a total of 1,018 beds were available for this class of patient. The conference made various proposals for improvements in the system of tuberculosis control. It was suggested that clinics should be established at all hospitals of, say, over thirty beds, and that there should be consultation in all suspected tuberculous cases. Such clinics should be under the supervision of the medical officers from the sanatoria. The foregoing proposals would fail, it was agreed, unless a tuberculosis nurse was given a permanent place in the scheme. A full-time tuberculosis nurse was required in the larger districts, and in smaller ones a district nurse, part of whose time was to be available for tuberculosis work.

Child Guidance

The psychologist has yet to take a prominent place in New Zealand's social and educational fields, and new legislation is foreshadowed in connexion with child welfare. Children's courts have now been in operation for ten years, and Borstal institutions are well established. It would appear that the results from the latter and from probation for first offenders in this country are better than those indicated by the reports from other countries, but statistics are not always strictly reliable for comparison. The tendency chiefly is for more child guidance clinics, similar in organization to that in Tavistock Square, London. Psychologists believe that a considerable number of juvenile crimes and much social deficiency can be traced to unfortunate experiences and disharmonies in childhood. The Director-General of Mental Hospitals in New Zealand strongly advocates extension of the number of child guidance clinics, which, he says, are eminently practical and are fulfilling a very definite and useful function.

Cancer

The cancer death rate in this country has risen as the tuberculosis death rate has declined. The annual meeting of the Cancer Campaign Society was held at Dunedin, and a report was received from the director of the Cancer Research Laboratory, who is inclined to believe that there is some as yet unknown serological factor which can excite a normal cell to malignancy. The report of the physicist on the deep *x*-ray apparatus will lead to the early purchase of new and more up-to-date machines. The cancer clinics in the larger hospitals are held twice a week, and have now provided sufficient statistics to warrant the appointment of a statistical research Fellow, who will also, so far as his time permits, begin an investi-

gation into the incidence of cancer in the Maori race. It is, broadly, the policy of the society to make every hospital and consulting room a diagnosis centre, but to restrict treatment of a specialized kind to four centres. The society works in full co-operation with the Government, and since its establishment the public has been awakened to the seriousness of the scourge, diagnosis has undoubtedly been improved—although many cases are still seen too late—and more cases are coming within the five-year period of relief, but expectation here, as elsewhere, is still far in excess of performance. New Zealand's Jubilee Gift to the King, at His Majesty's desire, is to be used for the purposes of the cancer campaign in this country.

England and Wales

Voluntary Hospitals Committee, County of London

A new step in the organization of the voluntary hospital service of London has been taken by the amalgamation of the London Voluntary Hospitals Committee and the London Regional Committee of the British Hospitals Association. The new committee represents both the governing bodies and the medical staffs of the 108 voluntary hospitals in the County of London, and will continue the consultations which have been taking place between the London County Council and the London Voluntary Hospitals Committee since 1930, under Section 13 of the Local Government Act, 1929. A subcommittee has been formed for meetings with representatives appointed by the Hospitals and Medical Services Committee of the London County Council. The committee will at the same time be an integral part of the British Hospitals Association, and its functions will include the consideration of all subjects which may affect the voluntary hospitals within the county. The committee will be known as the Voluntary Hospitals Committee, County of London, and honorary officers have been elected as follows: chairman, Mr. Oliver N. Chadwyck-Healey; vice-chairman, Dr. A. M. H. Gray; honorary treasurer, Sir Herbert Samuelson; honorary secretary, Professor L. S. Dudgeon.

The following is a list of the members elected by the hospitals:

Hospitals with Undergraduate Schools.—Mr. Geoffrey Bles, Dr. H. E. A. Boldero Dr. H. C. Cameron, Lieut.-General Sir Herbert F. Cooke, Professor L. S. Dudgeon, Dr. Geoffrey Evans, Mr. A. G. L. Gamlen, Dr. A. M. H. Gray, Lieut.-Colonel A. P. B. Irwin, Mr. Robert Milne, F.R.C.S., Sir Herbert Samuelson, Mr. Austin Taylor, Dr. C. M. Wilson, Mr. F. P. Whitbread, and Mr. G. T. Whiteley.

Hospitals without Undergraduate Schools.—Sir Lancelot Barrington-Ward, F.R.C.S., Dr. Maurice Davidson, Captain A. M. Hughes, Mr. F. A. Lyon, Mr. G. G. Panter, Mr. Harold Pearson, Mr Cecil Rowntree, F.R.C.S., Dr. C. E. Sundell, and Mr. Thorneycroft Wheen.

Special Hospitals.—Lord Annaly, Mr. J. Bright Banister, F.R.C.S., Mr. H. W. Burleigh, Sir A. Kaye Butterworth, Mr. F. P. Carroll, Mr. O. N. Chadwyck-Healey, Mr. A. G. Ferard, Mr. Charles Gibbs, F.R.C.S., Dr. A. Hope Gosse, Dr. Reginald Jewesbury, Mr. F. A. Juler, F.R.C.S., Sir Edward Penton, Dr. Eric Pritchard, Mr. J. P. Wetenhall, Captain R. G. Whitney, and Sir William Willcox.

Dr. Griffith Evans's 100th Birthday

As stated in the *Journal* last week, Dr. Griffith Evans of Bangor, North Wales, who celebrated his hundredth birthday on August 7th, received by telegram the congratulations of the King and Queen and the Prince of Wales as he was accepting a scroll personally handed to him on behalf of the Royal Veterinary College by Sir Frederick Hobday. It is announced that a carved plaque is to be set up in the college recording the fact that Dr. Evans, who obtained the diploma of M.R.C.V.S. as long ago as 1855, has consented to "lead the veterinarians of the Empire in support of the College Hospital 'Giant Nosebag 250,000,000 Farthing Endowment Fund.'" Dr. Evans, in acknowledging the scroll, delivered an address from his bed, to which he is confined as a result of an accident. He next received the mayor and town clerk of Bangor, who conveyed the congratulations of the citizens to their freeman. The centenarian personally read all the letters and telegrams, of which many were received during the course of the day. Mr. Lloyd George, who was among those sending congratulations, recalled that Dr. Evans had actually had personal contact with Abraham Lincoln. The centenarian was, in fact, one of the first to be sent out to Montreal as an Army veterinary surgeon in the time of the American Civil War in 1861. It was then that he decided to study medicine in his spare time, and succeeded at the end of four years in obtaining the M.D. degree of McGill University, though still continuing as a veterinary surgeon. In America he met Abraham Lincoln, who allowed him to go into the war zone on condition that if his services were needed he should tend the wounded. To this he agreed, and took a roving commission. He returned to England in 1870, at the time of the Franco-Prussian War. It will be recalled (see last week's *Journal*) that he identified a trypanosome as the cause of "surra," a disease affecting horses and camels in India. This was in 1880, and the discovery brought a new interest to trypanosomes which had already been discovered in non-pathogenic form by Gruby in the frog (1843) and by Lewis in the rat (1878). Other scientific activities of Dr. Evans included his suggestion in 1864, eighteen years before Robert Koch discovered the tubercle bacillus, that tuberculosis was infectious in character, and called for open-air treatment; his support of Spooner's theory that tetanus was a specific fever which must run its course; and his consequent adoption of Spooner's treatment in a case of tetanus in a boy, which, at first strongly opposed, was proved right. He had previous experience of such treatment in three cases in horses, which all recovered.

Dr. Erie Evans (Dr. Griffith Evans's daughter) writes from Bangor: As my father cannot recollect either the date when the name *Trypanosoma evansi* was fixed or the person who was responsible for so naming it, the following information from the secretary of the Royal Microscopical Society may be of interest. He states that Evans described the organism occurring in the blood of animals suffering from "surra" in 1880. In 1885 Steel redescribed it, and thinking it was a spirochaete named it *Spirochaeta evansi*. Crookshank, in 1886, recognized its similarity to the trypanosome of fish known as *Haematomonas mitrophanor* (1883), and at first referred to it as *Haematomonas evansi*, afterwards changing the name to *Trichomonas evansi*. It was Chauvrat (1896) who amended the name to *Trypanosoma evansi*. With reference to the personal touches in Dr. Ivor Davies's narrative, as it appeared in the *Journal* of August 10th, page 274, I may add that my father first met Osler in Toronto. He never lived at Cardiff, though he often paid me brief visits when I lived there. Since his retirement from the Army in 1890 he has always lived in Bangor, and when I retired from practice in Cardiff I came here to live with him. He never met Osler in Cardiff, and Osler was never in my house. My father and I had the pleasure of visiting him at Oxford when the former was staying with me in Cardiff. This was soon after Osler's visit to the Cardiff Medical Society, mentioned by Dr. Ivor Davies in his note.

Mortality Rates in Liverpool

Reviewing the mortality statistics for the City of Liverpool for the last sixty-four years, Dr. W. M. Frazer states that despite the very great increase in population since 1871—the community has nearly doubled since then—the actual numbers of deaths per annum have fallen from an average of 14,700 in the decennium 1871–80 to 11,319 in the year 1934. The general death rate has fallen from 28.5 to 13.1 per 1,000, a drop of more than 50 per cent. The decline has been steady and uniform in the group of infective diseases, excluding influenza, the reduction being 83 per cent. in the sixty-four years. The figure for tuberculous diseases is now only 30.5 per cent. of the earlier one, but the deaths still account for 8.8 per cent. of the total mortality rate. In the group of respiratory diseases, although there has been a fall in the death rate of 63 per cent., the decline has not been continuous; rises occurred in 1881–90, and again in 1929 and 1933, due in all cases to the prevalence of pneumonia. The

mortality rate in respect of digestive diseases, of which diarrhoea and other intestinal infantile conditions formed the most important section, fell during the period 1871 to 1890 ; in 1891–1900 there was a rise to 107 per cent. of the rate in 1871–90, but from that time there has been a most marked and rapid decline to 21 per cent. of the 1871–80 rate. This coincided with great efforts to prevent infantile mortality in the city. The number of deaths from cancer is increasing year by year, but Dr. Frazer thinks that it cannot be explained entirely by the greater average age of the population, although this is evidently an important factor, nor by improved methods of diagnosis, which vary but little in efficiency from one year to the next. He considers there is a real increase in the diseases affecting especialiy the stomach and other internal organs. In view of the marked tendency to a higher average age of the population arising from a lessening birth rate and lowered death rate, it appears inevitable to Dr. Frazer that the vital statistics of the country as a whole will have to record in future years a gradual increase in the proportion of deaths due to this disease unless some means of prevention shall be discovered in the meantime.

Scotland

Laboratory of the Royal College of Physicians

Sir Robert Philip, curator of the laboratory of the Royal College of Physicians of Edinburgh, states in his annual report that a fifth analytical review of the results of antirabic treatment at the various Pasteur Institues which submit statistics to the League of Nations has been prepared. It is still impossible from the available data to detect any clear indication of differences in the immunizing efficiencies of the various methods of treatment, or of the results of treatment by living and dead vaccines. With regard to post-vaccinal paralysis the liability among those treated by live vaccines is 0.04 per cent., as compared with 0.01 among those treated by dead vaccines. An examination of the characteristics of plumbism as found among shipbreakers has shown that there is no correlation between the invariably present punctate basophilia and the intensity of symptoms or the degree of risk. A prognostic point emerged: when the ratio of large to small mononuclear cells exceeded two to one there was little reason to anticipate any serious breakdown in health. On the other hand, a decrease below this ratio accompanied or even preceded the appearance of symptoms. It is suggested that this increased ratio may be of the nature of a defensive reaction. The laboratory's research work on cancer in 1934 was focused on "carcino-sarcoma," and a report is about to be published in which it is concluded that the boundary between inflammatory change, benign tumour growth, and malignant disease cannot be strictly drawn. A second study of the normal mamma is also ready for publication ; it deals with the mature gland in pregnancy and lactation, and is the only study of this kind in the literature.

Treatment of Venereal Diseases in Edinburgh

The work of the City and Royal Burgh of Edinburgh Venereal Diseases scheme is carried on for the most part in the out-patient clinics at the Royal Infirmary ; the in-patient accommodation for the purpose at this institution and the others in the scheme totals eighty-eight beds and cots. The scheme covers the east and south-east of Scotland, but the largest number of patients come from Edinburgh and the three Lothians. The incidence in the 2,803 new patients of the various forms of venereal disease was: syphilis, 26.1 per cent. ; gonorrhoea, 46.8 per cent. ; non-specific venereal disease, 25.1 per cent. ; and chancroid, 2 per cent. There was an increase again in the number of patients who required admission to hospital. Dr. R. C. L. Batchelor, acting clinical medical officer, believes that the number of cases of congenital syphilis is steadily decreasing owing to the greater number of expectant mothers who now receive ante-natal treatment. By means of follow-up work and the spread of knowledge about the dangers of venereal infection the number of persons suffering from acquired disease who attend regularly for treatment until tested for cure is also steadily increasing, and this factor contributes largely to the reduction of congenital syphilis. The incidence of gonorrhoea remains about the same, and Dr. Batchelor maintains that a stringent and searching test of cure is absolutely necessary in all cases. Until this is insisted upon universally, a certain number of carriers will remain to menace the health of the community, inasmuch as these latent cases in adults may give rise to ophthalmia neonatorum and to vulvo-vaginitis in young girls. There was a definite increase in cases of non-specific venereal infection, including such conditions as non-gonorrhoeal urethritis, balanitis, and non-syphilitic ulceration. While these are not followed by such serious complications as are syphilis and gonorrhoea, they are capable of producing disability and loss of working efficiency, and require constant observation and regular treatment. The cases of vulvo-vaginitis numbered forty-one in 1934 as compared with twenty-six in the previous year, the majority proving to be due to causes other than gonorrhoeal, and arising from threadworms or from infection by streptococci, staphylococci, and pneumococci. The period required for treatment of these children is seldom less than six months, and therefore arrangements have been made for a teacher to visit the Northern General Hospital for their education to be continued. Many new therapeutic preparations have been tried during 1934. Oil-soluble preparations of bismuth were not found to differ much in efficiency from the older suspensions of metal bismuth. Greater use has been made of the pentavalent arsenobenzol preparation acetylarsan, for both adults and infants ; it is usually administered by intramuscular injection, does not cause severe reactions, and has proved particularly beneficial in pregnant women and congenital syphilitic infants. Malaria inoculation has resulted in great clinical improvement in neurosyphilis, enabling many patients to return to their employment. The treatment has been continued, as formerly, with intravenous injections of tryparsamide and intramuscular injections of bismuth. The use of detoxicated gonococcal and mixed organisms vaccine has been almost a routine procedure in gonorrhoeal cases, resulting generally in a rapid cessation of symptoms with a low incidence of complications.

Falkirk Infirmary

The income for 1934 of the Falkirk and District Royal Infirmary was £17,727, and the expenditure £17,723. The endowment fund was increased during the period under review from £25,353 to £29,124, and subscriptions from employees totalled £9,610, which was an increase of £675 over the sum from this source in the previous year. The number of patients treated in the Infirmary was 2,124, as compared with 2,043 in 1933, and the average number of beds in daily occupation was 123. Out-patients numbered 5,198 as against 5,817 in the previous year, the average cost per out-patient being 8s. 3d. The number of admissions to the maternity home was 386 in 1934 and 304 in 1933. There are now 200 beds in the Infirmary, including those in the maternity home and isolation block, but, despite the recent additions, the waiting list shows no signs of diminution.

Among subjects of importance to dwellers in the more tropical parts of Australia which will be discussed at the International Pacific Health Conference in Sydney from September 3rd to 6th are leprosy, malaria, and intestinal infections. The conference will be held at the School of Public Health and Tropical Medicine in the University of Sydney. The dates of the sessions have been so arranged that delegates will be enabled to go to Melbourne to attend the Annual Meeting of the British Medical Association, which begins on September 9th. It is hoped that at least twenty-two administrations in the Pacific will be represented at the conference in addition to Australian delegates.

CORRESPONDENCE

Short-wave Therapy

Sir,—I have been in charge of the electrotherapeutic department of the East Suffolk Hospital for nearly eight years, and so may presume to have had reasonable experience in diathermy and other electrotherapeutic measures. In the course of my training and experience I have found that diathermy is of comparatively little use in treating most acute inflammatory conditions.

A few months ago I purchased a six-metre valve short-wave unit, and can support the contentions of Dr. Schliephake regarding the treatment of carbuncles and boils. The first patient referred to me was from a surgeon who is an exceedingly able and critical colleague of mine. The carbuncle was a large one, and twenty-four hours after the first short-wave treatment the surgeon telephoned to me: "Do you know, the carbuncle is barely two-thirds the size it was yesterday. The patient had a good night's rest, he has a normal temperature, and his general condition is greatly improved." Five treatments were necessary to effect a cure, and operative measures were avoided. Since that date I have had a number of these conditions to deal with, and in every case the progress has been similar to the above-mentioned one.

I would strongly welcome your proposals for a Council of Physical Therapy, but I must protest at the suggestion that this form of treatment is still in the experimental stage. Regarding the dangers, I do not think that these exist provided that the treatment is essentially given under the direction and control of a medical man experienced in electrotherapy, and not left to a non-medical assistant who may simply receive directions from a general practitioner who has no knowledge whatever of electrotherapeutic procedures.—I am, etc.,

Ipswich, Aug. 6th. C. H. C. Dalton.

"Nutritional Iron-deficiency Anaemia"

Sir,—In the paper with this title by Professor Davidson and Drs. Fullerton and Campbell in your issue of August 3rd there are some points that call for comment. It was stated that the results obtained by Wintrobe in America and by Don and myself in this country are similar to those of Williamson. This is not so, and it is well recognized that Williamson's figures are, for some reason not apparent, higher than those obtained by workers using different but comparable methods of precision. Wintrobe's percentages are 115 Haldane for men with 101 for women; our own are 114.76 male and 99.9 female. The figures are thus lower than those of Williamson by more than 7 per cent.

It must be recognized that methods for estimating the haemoglobin concentration fall into two catagories: those of precision, and the clinical methods which are usually anything but precise. In this country the largest investigation undertaken using an accurate method is that of Don and myself. We used gas analysis, and the results agreed closely with those obtained with a carefully calibrated flicker haemoglobinometer of my design; and to suggest that so crude a method as colour comparison in a pair of test tubes can be used as a yardstick with which to measure instruments of precision is merely futile. The claim to an accuracy of 2 per cent. denotes ignorance of the rudiments of chromatic photometry: if it were true no laboratory need possess a colorimeter. The impossibility of obtaining reliable readings by test-tube comparison is seen in some results quoted by Professor Davidson and his co-workers, wherein the Haldane instrument was compared with the Sahli-Leitz and between them produced a disagreement of 10 per cent.

I note that the authors say that in their own experience the Price-Jones standard of normality is to be preferred. Experience is essentially a matter of comparison, and since a thing cannot usefully be compared with itself one presumes that their experience embraces some direct method of measurement such as weight of haemoglobin, globin content, gas analysis, or organically combined iron. It would be of interest to learn the details.

The authors also seem to have overlooked Williamson's results for infants and adolescents. The shape of his curve is identical with the one they publish. The percentage values are higher, but that is a matter which probably involves a discrepancy in calibration, for I have observed that my own flicker results show in a lower plane of percentages the closest correspondence to those of Williamson—the highest percentages in both sexes are found in the two decades 20 to 30 and 40 to 50, with a slight fall in the 30 to 40 period, whilst in men above 60 the values tend to fall and in women over 50 to rise. So many similarities cannot be coincidental. One cannot discuss here the design and theoretical requirements of a simple clinical haemoglobinometer, and although the Haldane instrument does not fulfil those requirements it is nevertheless one of the best instruments available in the country at the moment. It is unfortunate that undiscriminating admirers insist upon making it ape the accuracy of a class of instrument to which it can never hope to belong. The immediate requirement is to save it from its friends. In the first place it can be said without qualification that no reading obtained is of any value if distilled water has been used as the diluent. In his original paper Haldane devotes half a page to explaining why it is unsuitable and why weak ammonia must be used. Yet nearly all the manuals which purport to describe the instrument do not mention ammonia.

Next, it must be remembered that the Haldane standard tube is calibrated to the Haldane gas apparatus and that the latter gives readings which are about 2.5 per cent. below those obtained with the van Slyke instrument; it is unnecessary to inquire into the causes of the difference, but if comparisons are to be made it is essential that they shall be made to a common standard. To-day the van Slyke apparatus is used mostly, so the Haldane values should be translated by the addition of 2.5 per cent.: this brings Price-Jones's mean to 108 per cent.

Thirdly, most workers will agree that the probable van Slyke mean is about 114 per cent., subject to a maximum sampling variation of about 2 per cent. on either side when 100 or more individuals are examined. The difference to be bridged is thus 6 per cent., and this is partly accounted for by the effect of suggestion. The influence of suggestion is notorious, and there is at least one unconscious example of it in the literature.

Lastly, the permanence of the Haldane standard has never received adequate investigation.—I am, etc.,

Manchester, Aug. 9th. C. E. Jenkins.

Views on the Cancer Problem

Sir,—It is not possible for all medical men to have the facilities, or even the inclination, for research work. There is, therefore, no reason for Mr. A. C. B. Biggs to excuse himself on this score. What is a pity, however, and indeed surprising, is that anyone should neglect to study the literature of a subject before expressing what he imagines may be original ideas. Even so, it is hardly possible to believe that Mr. Biggs has not himself read, or seen, or heard quoted, the views mentioned in his letter.

His general reservation about the originality of them is somewhat ingenuous. May I suggest that it is not too late for Mr. Biggs to examine closely for himself not only the working-hypothesis of my colleagues and myself, which he states without acknowledgement in his letter, but also the large amount of scientific work that has been done in relation to it. I may perhaps be allowed to add that he might make a start with *Some Aspects of the Cancer Problem* (published by Baillière, Tindall and Cox), for this work will remove much of his incognizance in regard to what I believe to be an unassailable biological interpretation of the problem and to the researches conducted in respect of it.—I am, etc.,

West Felton, Shropshire, Aug. 11th. W. Blair-Bell.

Sir,—Mr. A. C. B. Biggs's letter in the *Journal* of August 10th (p. 277) affords an interesting comparison with your annotation on Professor Julian S. Huxley's *Problems in Experimental Embryology* on page 264 of the same issue. I would suggest that the successful treatment of cancer need not necessarily be dependent on "an increased knowledge of the endocrine system," but on the study of the "hormone-like substances which take part in the differentiation of tissues."

During the past ten years our ideas of the aetiology of pernicious anaemia have undergone a radical change. Instead of the hypothesis of the presence of an alimentary toxin which would destroy erythrocytes, the view has changed in postulating an absence of the maturing or differentiating agent of the red blood cell—namely, the intrinsic factor of Castle—presumably secreted by the glands of Brunner. In the absence of that intrinsic factor there occurs "uncontrolled growth of cells, with a reversion back towards the primitive type." Liver therapy in pernicious anaemia has given us a useful clinical weapon but has not solved all the problems of its aetiology, especially in the part played by the leucocyte. It has been noted frequently that there exists a great similarity between the megaloblast of pernicious anaemia and the cancer cell, which is larger than its normal homologue and frequently shows mitosis. Is it possible, may we ask, that there may be secreted somewhere in the body a maturing agent for mesoblastic tissues? At first sight it may not seem possible that a disease like cancer, which primarily has a local origin, shall fall into the category of a deficiency disease, but the very essentials of malignancy—permeation of surrounding tissues and formation of metastases—are indications of failure of the general condition as opposed to the local exciting factor. In other words, malignancy is a failure of growth, whether it occurs in a normal tissue or in a benign tumour. The essentials for tissue culture—fresh normal serum plus embryonic extract—and the use clinically of normal serum in malignant conditions suggest that there may be in circulating blood an intrinsic factor which is necessary to mature embryonic tissue, and the type of growth which results depends upon the potentialities of the area stimulated. "It is the qualities resident in embryonic tissues which matter most."

In common with other deficiency diseases it would appear that a certain group of cases may occur from endocrine imbalance, although the majority may be due to atrophy—whether by toxic causes or from advancing age—of the cells which secrete the intrinsic factor: also the nervous control of secretion of hormones and intrinsic factors must account for another large group. Working on this hypothesis we have isolated what seems to be a specific intrinsic factor, the use of which gives interesting results, although time must elapse before we can assess its clinical value.—I am, etc.,

Whalley, Lancs, Aug. 12th. Tom G. S. Harkness.

"Naturopaths"

Sir,—In your issue of July 13th I gave an account of some recent activities of the medical herbalists. I would like to-day to refer to another cult, the "naturopaths," who since 1934 have "established a register," which, it is declared, "is designed to protect the public and the fully trained naturopath from those who with inadequate knowledge claim to practise as Nature-cure physicians."

I have before me a printed form of registration issued by this body, on which the applicant is asked to specify types of treatment which he gives, and the following are cited as examples of such treatment: "psycho-analysis, colonic lavage, electrotherapy, biochemistry, herbal medicine, orificial surgery, etc." A circular issued with the application form makes the following statement:

"Our standard of professional education is four years' full-time training with clinical experience. As the profession is still young, however, it has been impossible for many now in practice to obtain such a complete equipment. We are therefore following the example set by other young professions, and accepting proportionate experience in practice in lieu of a certain amount of training. Full information regarding both should be supplied on the printed form."

An applicant for registration may have to submit to an "examination" for which a fee of two guineas is payable on application. "Cheques to be made out to the Treasurer of the Incorporated Society of Registered Naturopaths." It seems to be common form with the irregular cults (probably in imitation of the most blatant of them—osteopathy) to name "four years' training" (usually fictitious) as the basis of "professional education," but no mention is made in the literature supplied to the applicant for registration in naturopathy of any schools at which training can be given.

The "British School of Osteopathy," "founded in 1917," posed, until its recent devastating exposure by the Select Committee of the House of Lords, as giving its "graduates" a "four-years course," the first two of which were declared to be "the same course as medical students take," and the dean of the school received the honour of publication of a half-column letter in large print in the *Times* of November 6th, 1933. The recent Bill for Registration of Osteopaths gave the British School of Osteopathy the fullest recognition, and proposed that it should be represented upon the Board which was "to enforce a prescribed standard of education" and "keep a register similar to the register maintained by the General Medical Council," and yet the Lords Select Committee found that the British School of Osteopathy "was exposed in the course of evidence before us as being of negligible importance, inefficient for its purpose, and, above all, in thoroughly dishonest hands."

The present rage for setting up "registers" of bodies of irregular practitioners and "schools" for their training is a phenomenon which, I think, deserves careful consideration by the medical profession. I have drawn the attention of the Minister of Health to the scandal presented by these schools which fraudulently pretend to qualify persons to practise various branches of medicine and surgery, and I have received to-day a letter containing his promise to look into the matter.—I am, etc.,

House of Commons, Aug. 2nd. E. Graham-Little.

Treatment of Acute Cholecystitis

Sir,—Mr. Cecil Wakeley, in his excellent article on diseases of the gall-bladder, advocates conservatism in acute cholecystitis. Surely the rational view is to look on the acutely inflamed viscus in the same light as the acutely inflamed appendix, and operate without a moment's delay for the following reasons: (1) danger

of perforation where faceted stones are present; (2) if operated on at once dissection is easy, since oedema facilitates clean removal by stripping up the tissue planes, whereas delay means adherent omentum, organization of fibrous tissue, and damage to patient by toxaemia; (3) immediate removal obeys one of the fundamental laws of surgery—to wit, that a useless inflamed mass of tissue should be removed; (4) in our present state of knowledge it is impossible to determine how far short of gangrene the inflammation has progressed.—I am, etc.,

Longtown, Cumberland, Aug. 10th. R. RUTHERFORD.

Treatment of Puerperal Streptococcal Septicaemia

SIR,—Eight years' experience of anti-streptococcal serum has driven away from my mind all dangers of puerperal septicaemia. My experience is that even where there has been inadequate and unsuitable food during the period of pregnancy, and even when the housing conditions are bad and the worries of a large ill-nourished family derogatory to the physical, mental, and emotional atmosphere of the home, mothers yet respond to the serum, provided it be given on the first or second day of a streptococcal invasion. I have never failed to get a speedy recovery, and only once failed to get a normal pulse and temperature within forty-eight hours. The whole point is that the serum must be given early, when quite small doses (10 c.cm.) are adequate. The scarlatinal serum will "do the trick," though not as effectively as the puerperal serum of Messrs. Burroughs Wellcome.

I never send cases to hospital, because I have a fear that perhaps they may not receive the serum. Nor, for that matter, do I feel that they need be sent away provided they are treated early. The neglect of the use of the serum is to my mind one of the most important "crimes" of the profession. It is at least as useful as is diphtheritic serum in the treatment of diphtheria. Nevertheless, I am inclined to think that the use of a streptococcal vaccine—about 150 millions, given when labour begins—might be a very important preventive method, and might be used as a routine. Specialists usually see cases of puerperal septicaemia when the varicose veins of the broad ligaments are solidified with infected clot. It is not to be expected in these cases that the use of serum is likely to be as dramatic as it is in the cases to which it is administered early.

Other "crimes" of the profession are the failure to use anti-catarrhal vaccine or Parke Davis's pneumonia immunogen in cases of bronchitis or bronchopneumonia of children, the failure to use Bordet's bacillus in the treatment of whooping-cough, and the failure to use pneumococcal serum in all early cases of pneumonia in adults. Incidentally, it is an extraordinary fact that children, and even babies under 1 year of age, can take vaccines in doses exactly as one administers them to grown-ups, and with startlingly beneficial results. Another remarkable fact about the administration of vaccines to babies is that the local reaction is less than with adults, and in fact is often almost imperceptible, and yet the general results are extremely reliable and extremely beneficent.

A final point is that streptococcal serum should in my opinion always be given in cases of abortion suspected to be induced.—I am, etc.,

Yardley, Aug. 4th. J. C. JONES, M.B., Ch.B.

SIR,—I am interested in the correspondence with reference to the use of anti-scarlatinal serum in the treatment of puerperal sepsis. This has been a routine treatment at this hospital for many years, with satisfactory results, I being the first, or one of the first, to use it for this purpose. Many practitioners in the district give this serum on the first suspicion of the condition, and find it the most suitable treatment.—I am, etc.,

E. THORP,
Deputy Medical Officer of Health, Sunderland Hospital for Infectious Diseases.

August 7th.

Return of Sight in an Amblyopic Eye

SIR,—In a large number of cases of amblyopia from disuse, in squinting eyes, I have generally found that after operation for squint the quickest way to get the previously squinting eye to increase its keenness of vision is to make patients cover up the good eye with an eyeshade, and train the defective eye by reading; this they can do with their glasses on. In most people under the age of 25 or 30, if the amblyopic eye gets a tenth of full vision with glasses, and possibly only Jaeger 16 or 14 in near vision, a note should be made of the date at the side of reading type. The patient should be told to try reading the next smallest reading type for ten to fifteen minutes daily; when he has done that, a note should again be made of the date. In young people three to six months' training of this kind will enable a patient to read the smallest reading type in most cases. The distant vision, however, does not improve to the same extent as the near, even with proper correcting glasses on these amblyopic eyes, so that one often finds that a patient can get Jaeger I, but has to be content with a quarter or a third of full vision for distance.

The principal thing, if the patient is a child, is to get the parents' co-operation, and even in hospital practice it is not so difficult nowadays to see that this is properly achieved. Mere covering up of the good eye and letting the patient do as he likes will not produce these good results, as he concentrates on nothing; but the act of reading, even if he has to puzzle the words out letter by letter, needs thought, and should be supervised by the parent. A generation ago there were many more squints, and many people refused to have anything done for them; but nowadays people are a little more enlightened than they were. The trouble with all these cases is that the parent is concerned only with the appearance of the eye, but the ophthalmic surgeon has to concern himself with the sight of the eye, as the squint can be put straight at any time.

There were innumerable cases of war injuries to good eyes leaving old amblyopic squinting eyes for the patient to carry on with, and in people who are not so young as they were it is often very difficult to get any useful vision in them in spite of all sorts of training. It is, therefore, most important to see that, even if the parent objects to the child being operated on, the squinting amblyopic eye is properly trained, so that if anything should happen to the good eye later on in life the child will have some useful vision with the other: this is best done when it is young.—I am, etc.,

London, W.1, Aug. 7th. SYDNEY TIBBLES.

Treatment of Bacillary Dysentery

SIR,—As my "Summary of Treatment" (*Journal*, June 8th, p. 1162) has been received with criticism as well as interest may I now reply? Dr. A. E. Carver (June 15th, p. 1237) rightly corrects me for excluding soured milk from the diet, and I have been likewise reminded (by Dr. William Corner of Hove) of what is similarly the usage in Kurdistan. On symptomatic treatment Dr. Carver's remarks supply some valuable amplification to this summary. From a perusal of Colonel F. J. Palmer's letter (August 3rd, p. 233) and of his paper on the treat-

ment of the various "intestinal fluxes," I feel inclined to reciprocate the concern for "those without much experience of the subject," but hope that when they realize in what manner bacillary dysentery is distinct and the Shiga infection paramount, they will discriminate in their choice of remedy.

The need for polyvalency in the anti-dysentery serum—that is, the inclusion of the representative number of anti-bacterial components—is a disputable point. For the exotoxin there is, in the existing serum, the prepared and proven antidote. For the various endotoxins—less important because less potent—there is no great necessity for inclusion. What is more desirable is a suitable specific prophylactic—for example, a Shiga toxoid, rather than an improvement in the therapeutic serum. Again, from personal experience in Iraq, from records of epidemics elsewhere, and from such surveys as are contained in the League of Nations Epidemiological Reports, I cannot consider the Shiga infection to be as uncommon as Colonel Palmer infers. But having stated these disagreements I must acknowledge my appreciation of the value of this writer's method of treatment in the colitis of many infective conditions, as he describes in his very instructive paper, and as he indicates in his letter. With reference to the colour of the bowel exudate, I have noticed rather the sequence in colour from the presence of first blood, then altered blood and bile, being at first bright red then greenish black. I have not noticed the mauve tint he describes.—I am, etc.,

Andover, August 9th. H. W. Corner.

Abdominal Pain in Children

Sir,—With reference to the correspondence which has appeared in recent weeks on the above subject, I feel that I should record one more case of outstanding interest.

I see from my records that in May, 1923, I attended a child only 16 months of age, suffering from general abdominal pain of a colicky nature. After several days of routine treatment the child failed to improve and the temperature rose. Under a general anaesthetic a definite mass was palpable in the right iliac fossa. I opened the abdomen at once, and a fetid abscess was evacuated and drained. Recovery was uneventful, and the patient, who is now a well-grown schoolboy, has never since had any abdominal symptoms.

Gangrenous appendicitis may be unusual enough at this age, but the localization of the infection must be infinitely rare.—I am, etc.,

Yeovil, Aug. 9th. Norman Flower.

Jiu-Jitsu Methods of Resuscitation

Sir,—In *The Complete Kano Jiu-Jitsu*, by Hancock and Higashi (Putnam, 1935, 5s.), an illustrated description is given of a graduated series of "tricks" for mastering an assailant, ending with serious and deadly ones. It is stated in the preface that during practice of the deadly tricks a skilled practitioner of "kuatsu" should always be at hand to restore a contestant who has been rendered unconscious or apparently killed. It is claimed that the methods of kuatsu are efficacious in sunstroke and drowning where ordinary medical means fail, and that persons who have fainted or who have been struck unconscious can be quickly brought back to a full possession of their faculties. Sharp, swift blows with the protruding second knuckle of the second finger, with the point of the elbow, or with the point of the foot will cause death if struck on one of the eight indicated points of the human body, even when the striker is restricted by grappling with an adversary. Amongst these points are: the bridge of the nose, a point between the nose and the upper lip, the praecordium, the xiphisternum, the nape of the neck, and a point at either side just above the pelvic brim. To quote from the foreword:

"When a fatal jiu-jitsu blow is struck in the right way the processes of life are mechanically stopped. It requires the prompt manipulations of kuatsu to set these vital forces at work again by mechanical means and thus to restore life. A man killed by one of our more serious tricks could not be restored to life by any of the methods known to the medical profession. But by kuatsu, which is based on a knowledge of the natural laws of anatomy and physiology, as gained by our adepts after many centuries of study, it is possible to set the vital forces in operation again by mechanical means. Kuatsu, however, must be applied immediately after the victim succumbs."

Apparently there are six kuatsu "tricks" for employment in various conditions of injury. Simple as the descriptions of them are, a warning is given that to achieve success in restoration to life much practice and skill in their application is necessary: in fact, an expert practitioner is required. For the most part the restorative "tricks" seem to consist of a series of sharp blows usually administered with the "heel of the hand" at various points, such as the pit of the stomach, the seventh cervical vertebra, the lumbar spine, and the centre of the clavicle. As soon as recovery ensues the subject is raised and walked about. The latter part of the treatment is described as "mandatory." Now if these methods of resuscitation are likely to be successful in brain injury, strangling, heart injury (perhaps including cessation during anaesthesia), apparent death by drowning, and any kind of body blow or severe injury which causes unconsciousness, when the usual methods accepted and employed by the medical profession are unlikely to be successful, surely they should be investigated by any members of the medical profession who are in a position to do so, and reported upon.

Finally, it would be of interest to hear the anatomical and physiological reasons for death consequent on blows on each of the eight fatal points.—I am, etc.,

Elstead, August 6th. J. W. Cornwall, Lieut.-Col. I.M.S.(ret.).

Physiology of Deep-sea Diving

Sir,—In connexion with the interesting article by Dr. Thomson in the *Journal* of August 3rd (p. 208) on the the above subject, it is of interest to recall experiments which were carried out some years ago on a method for greatly reducing the time of decompression required by a diver ascending from a considerable depth. The experiments consisted in providing the diver with an artificial atmosphere composed of 20 per cent. oxygen and 80 per cent. helium. The solubility of helium in blood is about 40 per cent. less than that of nitrogen, and, owing to its much smaller density, its rate of diffusion is 2.7 times as great; thus helium dissolved in the blood, by increase of pressure, can be released very much more rapidly than nitrogen under similar conditions. Experiments on animals carried out by the U.S. Bureau of Mines have shown that the time of decompression required for helium-oxygen mixtures can be safely reduced to a quarter, or even less, of that required with air. In work at great depths the proportion of oxygen in the mixture is reduced to 15 per cent. or 10 per cent., so as to keep the partial pressure of the oxygen below a figure giving rise to toxic symptoms.

In caisson work, where more elaborate equipment is permissible than in deep-sea diving, it has been suggested that the men should be working in the ordinary way in compressed air, but that when the time for decompression arrives they should proceed to a chamber

containing a helium-oxygen mixture at the same pressure as that of the air they have just left. This has the effect of creating a partial vacuum with respect to nitrogen, which thus leaves the blood very rapidly ; since, however, the *total* pressure is unchanged no bubbles can be formed in the blood. The pressure can then be decreased at the accelerated speed suitable to a helium-oxygen mixture. A mixture of helium and oxygen with a small addition of carbon dioxide was successfully used for respiratory purposes some years ago in the salvage operations carried out on the U.S. submarine S 51, which had sunk in a depth of 250 feet. An oxygen-hydrogen mixture would also be physiologically superior to air, but the risk of explosion would make its use excessively hazardous.—I am, etc.,

Chester, Aug. 6th. V. BISKE, B.Sc., A.I.C.

Radium in Treatment of Varicose Veins

SIR,—Referring to the articles and correspondence on the treatment of varicose veins, may I be permitted to draw attention to the use of radium in this connexion? As is well known to all workers with radium, one of its most evident therapeutic effects, perhaps indeed the most evident, is that of causing contraction of blood vessels—of arteries, but especially of veins. This is very apparent in its action upon naevi, upon birth marks, and upon those tumours more plentifully supplied with blood vessels, also upon certain internal conditions, such, for instance, as prostatic haemorrhage.

In those cases of varicose veins in which I have had an opportunity of trying it, the result has been satisfactory: the varicose condition has disappeared, there has been no tendency to return, and the veins seem to have regained their contractile tone. In order to obtain the desired effect a fairly strong application is necessary, and experience therefore in the use of radium, so as to avoid injury to the overlying skin and connective tissue. The treatment has the advantage of being free from the risk which is always present, to a greater or less extent, when substances are injected into the venous system.—I am, etc.,

RALPH H. BROWNE-CARTHEW, M.D.

London, S.W.1, Aug. 5th.

Alcohol and Judgement

SIR,—It may seem pedantic to dissent from one word of the admirable report which the Special Committee on the Relation of Alcohol to Road Accidents has made to the Association. The accuracy of the report is undeniable were it not that the use of the word judgement is liable to mislead and likely to diminish, in the minds of some people, its value. "Judgement," as used in the report, has a somewhat limited meaning. It refers to rapid decisions largely of the nature of reactions of choice and of special problems made familiar to pharmacologists and psychologists during the last century by Wundt and by Kraepelin. What is more commonly regarded as judgement is a more deliberate act, not necessarily with a time limit, and often dealing with things of which there is intimate knowledge and experience ; and it has not been proved that the doses of whisky mentioned in the report have any material influence on the results of this logical process. Experimental evidence could be produced which seems to prove the contrary. And from observation and experience men know that such judgements in life are not greatly affected by these doses of alcohol.

Experiments made under my direction many years ago appear to show that an individual on the verge of unconsciousness may, for his condition, reason logically concerning things with which he is familiar so long as his attention can be held regarding them. Alcohol does not facilitate clear and rapid thinking ; neither does it, in small quantities, seriously affect deliberate judgements. The danger of taking alcohol as a factor in road accidents is due to its effect upon other psychological processes referred to in the report.

It is unfortunate that no experimental evidence bearing directly on the point at issue is available. I have already advocated an investigation to this end. There should be no difficulty in devising a chassis arrangement comprising all the necessary movements, with their appropriate resistances, and their registration against a time indicator on paper (not smoked), which would form a permanent record of any individual's achievements at that particular time and in that particular condition. Experiments made on a large number of individuals of varying age groups, without and with varying driving experience, and including abstainers and seasoned topers, should provide the data required. The labour exchanges would probably be able to supply the individuals, and these might be enhanced, and perhaps special requirements met, from voluntary sources. I have offered myself for experiment. It may be interesting to add that the late Lord Knutsford in a letter to me also offered himself for an investigation of the kind.

I believe that a simplified apparatus, which could be used by a police sergeant, could be devised which would register the driving abilities of any individual, and the records obtained would be more useful evidence in a court of law than the methods at present employed.—I am, etc.,

Tunbridge Wells, Aug. 10th. C. R. MARSHALL.

Birth Control and its Opponents

SIR,—I have to thank you very much indeed for devoting so much valuable space in your issue of August 3rd to a notice of my *Birth Control and Its Opponents*. In justice to the book, however, I feel that I must beg a little further room in which to pick a bone or two with my reviewer. I shall be as brief as possible.

In the first place, as it seems to me, his mode of expression is not always what one would call transparently clear. Here is an example, occurring, most happily, at what appears to be a vital stage of his exposition. He writes: "The one means of improvement, apparently, is to diminish the human species by allowing its recruitment only from those who accidentally—or, in a few cases, designedly—escape the universal application of measures of birth control."

Secondly, from the number of incorrect statements of my position that appear in his review, I can only conclude that my reviewer must have read the book in a very hasty and imperfect manner. To place this beyond all doubt, a few brief and simple quotations will suffice. "He shrinks, however," says my reviewer, "from the conclusion that the world should no longer be peopled, and ignores every possibility but one of making it better." What I have actually written (p. 14) is: "But should he [man] decide valiantly to rely upon himself and to continue his sojourn upon this planet, there are very many ways in which, *by united action*, he can effect improvement." In another place the reviewer says: "He puts it [birth control] forward as the one remedy for war, unemployment, and maternal mortality." Actually at page 72 of the book one reads: "I shall show that birth control is an essential aid to the practice of eugenics, to the achievement of peace, to the elimination of unemployment," etc. ; while at page 97 the actual wording is that "the scientific practice of birth control . . . will reduce maternal mortality." I would only add that as these and other more complex errors of statement occur through-

out the review, and that as practically no account appears in it of the moral and humanitarian aspects of my work, I was tempted on reading it to wonder whether it was really my own book that was under discussion, whether it was a work by some other person, or whether it was one that existed only in the mind of the reviewer himself.

Finally, I would beg to point to a very remarkable assertion which the reviewer permits himself to make, and which he appears to launch against what he conceives to be my views. "It is demonstrable," he informs us, "that the application of scientific methods to agriculture would result in food production sufficient for the needs of many times the present population of the world, even if not a single acre of fresh cultivation were added." Having called attention to this most reckless statement, however, I am well content to leave it to the judgement of any of your readers who have studied the practical possibilities of agriculture, the economic law of diminishing return with all its implications, the problems involved in the distribution of food over wide areas, and the question of a really adequate diet for each and all of the world's human inhabitants. I have little doubt as to the verdict. —I am, etc.,

Frank W. White, L.R.C.P. & S.Ed.

Cullercoats, Northumberland, Aug. 8th.

Population and Food Supply

Sir,—In a review on page 212 of your issue for August 3rd the surprising statement is made that it is demonstrable that the application of scientific methods to agriculture would result in food production sufficient for the needs of "many times" the present population of the world, even if not a single acre of fresh cultivation were added. That the production could even be doubled is doubtful, because rainfall is insufficient and certain fertilizers scarce. Professor Armstrong has said: "The solution of the nitrogen problem by Crookes has brought us nearer to destruction rather than saved us, by hastening the depletion of irreplaceable phosphatic stores," and Sir Frederick Keeble that "nearly all the soils of the world are famishing for phosphates." However, the question as to what population the world will *ultimately* be able to support is relatively academic. The Malthusian and practical consideration is that the world's inhabitants have never increased their food supply at a rate of more than one per centum a year, and that they may therefore be expected to continue having widespread food shortage until they have reduced their birth rate to about twenty per thousand.—I am, etc.,

Putney, S.W.15, Aug. 3rd. B. Dunlop.

Paraldehyde as a Pre-anaesthetic

Sir,—I would like to endorse fully all that Dr. R. R. Foote has said in his letter to the *Journal* of August 10th (p. 278) concerning the use of rectal paraldehyde as a pre-anaesthetic. We in our hospital practice are finding it of increasing usefulness in all types of cases and in patients of all ages. Only in the very toxic and very old do we find that it is not well tolerated (it tends to be returned) and is therefore less useful for that reason. We have not had a case of proctitis in a series of 800 patients where this method has been used. In our early cases hiccup was sometimes a troublesome feature of the post-operative period. This, however, was well controlled by inhalations of carbon dioxide, and latterly, for some reason or other, it is of much less frequent occurrence. I think that there is little doubt that lung complications are more frequently absent, or, if present, less severe when this drug is used as a preliminary measure. The simplicity of the technique and the relative non-toxicity of the drug are two definite advantages. The patients themselves often ask that they shall be "put to sleep in the ward," and I am sure that the so-called unpleasant odour of the drug has been very much overestimated.—I am, etc.,

Bow, E.3, August 10th. J. R. M. Whigham.

Treatment of Infrequent Epileptic Fits

Sir,—I saw a boy 10 years old in a typical attack of epileptic fit, and was told he had had similar attacks every twelve months during early summer for the last four years. I have kept him on luminal, 1/2 grain daily, for over eighteen months, and he has remained free from an attack. In cases in which the interval is much longer I should be inclined to give a two-years course of luminal, if only for the simplicity and harmlessness of the treatment and the possibility of avoiding further recurrence.—I am, etc.,

Burton-on-Trent, Aug. 10th. M. Ghosh, M.B.

"Tulip Fingers"

Sir,—In your last issue Mr. A. P. Bertwistle reopened the discussion on the interesting condition of peri- and hyp-onychial dermatitis from handling tulip bulbs. I first saw this condition nine years ago, and subsequently described it in a medical journal (*Lancet*, November 13th, 1926).

I have little to add to Mr. Bertwistle's description of a typical case, except that at the time it seemed to be those with untrimmed nails who were chiefly affected. The tulip bulb is peculiar in that it is protected by a thin and easily split testa. It is worth recording that the use of an ointment beneath and around well-trimmed nails not only seemed useful in preventing the condition but relieved the symptoms of sufferers. The wearing of finger stalls has proved of value, and is to be preferred to the use of rubber gloves.

Peri- and hyp-onychial dermatitis, as distinct from "lily rash" from daffodils and narcissi, was also observed more recently among those coming in contact with the stem juices of tulips. It seems likely that a lime salt is responsible. There is every hope that with appropriate care this painful condition may be prevented.—I am, etc.,

Factory Department, Home Office, Aug. 14th. Sibyl G. Horner.

The Services

DEATHS IN THE SERVICES

Lieut.-Colonel Robert Davidson, R.A.M.C., died suddenly in the military hospital at Murree, Punjab, on July 13th, aged 48. He was born on August 19th, 1886, the eldest son of the Rev. R. Davidson of St. Cyrus, and was educated at St. Andrews, where he graduated M.B., Ch.B., with distinction, in 1910, and M.D. in 1921. He also took the D.P.H. at Birmingham in 1922. After filling the posts of senior house-physician and house-surgeon at Dundee Royal Infirmary he entered the R.A.M.C. as lieutenant on July 28th, 1911, and reached the rank of lieutenant-colonel on May 1st, 1934. He served during the war of 1914-18.

Lieut.-Colonel Richard James, Madras Medical Service (ret.), died at Colinton, Midlothian, on July 26th, aged 80. He was born on April 20th, 1855, was educated at Edinburgh, where he graduated M.B., C.M. in 1878, and entered the I.M.S. as surgeon on March 31st, 1879. He became lieutenant-colonel after twenty years' service, and retired on April 29th, 1910.

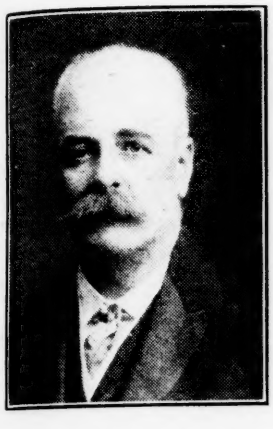
Captain Christopher Urry Wickham, Indian Medical Service, died at Peshawar on June 19th. He was educated at Birmingham, and took the M.R.C.S., L.R.C.P.Lond. in 1932. He entered the I.M.S. as lieutenant, with an extra year's seniority, on October 25th, 1934, less than a year ago, and was promoted to captain from March 11th, 1935.

Obituary

W. T. HOLMES SPICER, M.A., M.B., F.R.C.S.

Consulting Ophthalmic Surgeon, St. Bartholomew's Hospital; Consulting Surgeon, Royal London Ophthalmic Hospital, Moorfields

We much regret to announce the death of Mr. W. T. Holmes Spicer on August 8th at Elmley House, Wimbledon Common, within a week of his seventy-fifth birthday. Both at St. Bartholomew's Hospital and at the Royal London Ophthalmic Hospital, Moorfields, he did much to systematize the teaching of ophthalmology, and endeared himself to successive generations of students.



Born at Saffron Walden in 1860, William Thomas Holmes Spicer received his early education at Saffron Walden School and Queen Elizabeth's School, Barnet, and went up to Cambridge as a non-collegiate student at the age of 17. He became a member of Gonville and Caius College in 1879, and graduated B.A. with honours in the Natural Sciences Tripos of 1881. At St. Bartholomew's Hospital he won the Brackenbury Surgical Scholarship, and in 1884 qualified as M.R.C.S. He took his M.B. and M.A. in 1886, and became F.R.C.S. in 1888. During his early years at Bart's he was president of the Abernethian Society, and served in turn as house-surgeon and ophthalmic house-surgeon. After a short experience of general practice in London Spicer returned to the study of ophthalmology, and became a clinical assistant at the Moorfields Eye Hospital, after which he was appointed ophthalmic surgeon to the Victoria Hospital for Children in Chelsea and to the Metropolitan Hospital. In 1898, on the retirement of Edward Nettleship, he was elected assistant ophthalmic surgeon to Moorfields, and continued on the active staff there until 1920. For some years he did excellent work as dean of the school at Moorfields.

At St. Bartholomew's there were no separate wards for diseases of the eye until 1870, when two ophthalmic wards were opened by the Prince and Princess of Wales, and Henry Power (father of Sir D'Arcy Power) was appointed ophthalmic surgeon to the hospital. On Power's retirement in 1896 Bowater Vernon became senior ophthalmic surgeon, and at his death in 1901 Walter Jessop and Holmes Spicer were elected ophthalmic surgeons. Jessop, also a Caius man, died in 1917, and Spicer retired from the active staff on reaching the age limit in 1925, when he was elected consulting ophthalmic surgeon and a governor of the hospital.

Holmes Spicer was for many years a well-known though far from obtrusive figure in the medical world of London. He was an active member of the Ophthalmological Section of the Royal Society of Medicine, and held office as its president for two years. He joined the British Medical Association in 1886, and at the Annual Meeting in London in 1895 was secretary of the Section of Ophthalmology, and seven years later vice-president of the same section at the meeting in Manchester. In 1897 the sixth edition of Nettleship's *Diseases of the Eye* appeared with his name on the title-page as editor; he also wrote the article on the cornea for the *Encyclopaedia of Medicine*, and contributed a number of papers to the *British Journal of Ophthalmology*. In 1923 he was awarded the Gifford Edmunds prize for his work on parenchymatous keratitis.

We are indebted to Mr. R. FOSTER MOORE for the following appreciation:

My earliest acquaintance with Holmes Spicer was as a dresser in the Ophthalmic Department at St. Bartholomew's Hospital. I well remember the first impression I received was of his very special charm, a charm which all who came into contact with him must have felt and which increased with intimacy. Later I acted as his house-surgeon, since when I can claim the privilege of calling him a close friend.

On leaving Caius, Cambridge, he joined St. Bartholomew's, and his ability was soon shown by the taking of several of the most important prizes there. For a short time after qualifying he did general practice in Bedford Square, but soon gave it up for ophthalmic work, for which he had acquired a special liking. At this time he started work as clinical assistant to Nettleship at the Moorfields Eye Hospital, which was then actually situated in Moorfields and only later migrated to the site it now occupies. Among his contemporaries were Streatfeild, Lawford, Treacher Collins, Tweedy, and many others. He always had the greatest possible admiration for Nettleship, and was later an intimate friend of his until his death. During this period he was also working at St. Bartholomew's, and on the death of Mr. Vernon was appointed ophthalmic surgeon to the hospital with Mr. Jessop as his colleague.

His professional work was notable for extreme accuracy of observation, for delicacy in operating, and for the sanity and soundness of his outlook. He had a large practice and was greatly loved by his patients. He was president of the Ophthalmological Society of the United Kingdom.

Of outside interests he had many. He was a good golfer and at one time was an enthusiastic motorist. On one occasion, experimenting with what was called an "auto wheel," an arrangement which was attached to a "push" bicycle, he started it off but could not stop it, and continued circling around the Inner Circle of Regent's Park till the petrol was exhausted. He was a good linguist, but his very special flair was for water-colour painting, at which he could quite accurately be called a great expert. He did not, so far as I know, ever hold an exhibition, though with great reason he might have done. So recently as a month ago, with Mrs. Spicer, he attended the exhibition of the newly formed Medical Art Society and exhibited five pictures there. He did not give so much time to line drawing, but his delicacy and skill with the pencil was, I always felt, even more rare than with water colours.

Holmes Spicer was a charming, loyal, and accomplished friend; his integrity was unassailable; he stood for everything that was best in our profession. He lived a full life, and will long be remembered.

[The photograph reproduced is by Lafayette Ltd.]

W. GIFFORD NASH, F.R.C.S.

Consulting Surgeon, Bedford County Hospital

We regret to announce the sudden death on August 2nd of Mr. Walter Gifford Nash, the distinguished Bedford surgeon. He was born in December, 1862, at Berden, Essex, of which his father, the Rev. F. G. Nash, was vicar. From Gloucester Cathedral School he went to the Middlesex Hospital and studied later for the F.R.C.S. at St. Bartholomew's. At the Middlesex he won several scholarships, and having qualified M.R.C.S., L.R.C.P. in 1887 held the posts of house-surgeon, house-physician, obstetric house-physician, and casualty surgical officer. Then, following a period as house-surgeon at the South Devon and East Cornwall Hospital, Plymouth, he began practice at Bedford immediately after obtaining the

Fellowship of the Royal College of Surgeons in 1891. He was appointed surgeon to the Bedford County Hospital in 1896, and on his retirement from the active staff in 1933 the governors elected him consulting surgeon, in recognition of his devoted and skilful service. To the hospital, as to the town and county in general, his death has come as a painful shock.

Mr. Gifford Nash joined the British Medical Association in 1890, and had held office as president of the South Midland Branch. He was also a past-president of the Bedford Medical Society. Apart from his surgical work at the Bedford Hospital, he had been vice-president of its guild and chairman of the Convalescent Home Committee and of the Trained Nurses Institute. He leaves four daughters and two sons—Mr. F. W. Gifford Nash, F.R.C.S., of Bedford, and Captain H. K. Gifford Nash, R.A.M.C.

Mr. G. Gordon-Taylor, surgeon to the Middlesex Hospital, sends the following appreciation:

The death of Walter Gifford Nash has not only robbed Bedford and Bedfordshire of a great surgeon and a charming personality, but British surgery is also the poorer for the loss of one who made several notable contributions towards its advancement. It was always difficult to realize in conversation or in co-operation with Gifford Nash that he had been practising for nearly half a century, and that his earliest contribution to the *British Medical Journal* was as long ago as 1892.

Gifford Nash began to practise at a time when much of the surgery of the abdomen was still in its infancy. It was only in 1887 that Treves had performed the first deliberate appendicectomy, and Nash, embarking upon his own earliest appendicectomies only two or three years later, lacked the good fortune to have actually witnessed the operation carried out by another surgeon. It was not otherwise with gastric surgery; his earliest operations on the stomach in the early 'nineties were not modelled on anything that he had had the occasion to observe in the theatres of other operators: he had to direct his own skilful hands. He was not long behind Sir Arbuthnot Lane and Sir Charles Ballance in successfully operating for infective thrombosis of the lateral sinus and ligaturing the internal jugular vein for this condition. One of his earliest contributions to surgical literature dealt with torsion of the undescended testicle, and, although Nicoladoni had drawn attention to this complication in a foreign journal in 1884, Nash was the first British surgeon to describe the condition in a short paper in the *Lancet* of June 6th, 1891. Not only can priority among British surgeons be claimed for him in recording this complication of the undescended testis, but he later recorded cases in which he was actually able, by manipulation, successfully to untwist the torsion, and made other contributions to the literature of this subject. He seemed to have had almost a flair for encountering the unusual in the surgery of that now distant period, and his writings refer to such varied activities as a successful nephrectomy for a pyonephrosis of the left half of a horseshoe kidney in an infant of 16 months, and the successful removal of a torsion of the testis in an infant 9 days old; he dealt successfully with a case of acute pancreatitis only five years after Fitz's classical description of that disease in 1889, and also with such a rarity as a primary hyperplastic tuberculosis of the stomach and duodenum.

While his house-surgeonry to Sir Henry Morris in 1887 naturally led to a sustained interest in the problems of renal surgery, his surgical apprenticeship within the walls of Middlesex Hospital, when Bland-Sutton was unravelling the pathology of ectopic gestation and indicating its surgical treatment, doubtless stimulated his enthusiasm for the surgery of this condition, and may have been responsible for the numerous papers on this subject that frequently came from his pen. His address on cancer, when in 1902 he was president of the South Midland Branch of the British Medical Association, contained much that was of interest in connexion with "cancer houses," "dual cancer," and other points dealing with the aetiological aspect of the disease. His wealth of surgical experience was immense, and any appeal would always result in his unburdening himself of an abundance of information germane to the question at issue and of value to the interrogator who sought his advice and aid. He had capable hands and profound judgement: he inspired confidence everywhere, no less in the houses of the rich than in the cottages of the poor: he radiated enthusiasm among those who were his colleagues in the work of his life. In the words of the chairman of the managing board of the Bedford Hospital, which he served so loyally, he was a "great surgeon and a great gentleman."

DAVID RICE, M.D.

Medical Superintendent, Norwich City Mental Hospital

Psychiatry has suffered a very great loss by the death of Dr. David Rice, which occurred at his home at Hellesdon, Norwich, on July 31st, after a long and painful illness borne with extraordinary patience and high courage. Sixty-four years of age at his death, he was for over twenty-seven years medical superintendent of the City of Norwich Mental Hospital and medical adviser to the Committee for the Care of the Mentally Defective.

David Rice was a native of Surrey, and a son of the Rev. C. H. Rice, rector of Cheam. He was educated at St. Columba's College, Dublin, of which his uncle was warden. From there he proceeded to Guy's Hospital, and later to the Rotunda, Dublin. He held the degree of M.D.Brux., and took the M.R.C.S., L.R.C.P. in 1898, and the D.P.H.Manchester in 1906. After a brief period in general practice he started his life's work at Bethlem Royal Hospital as resident physician. On the completion of this appointment he went to Staffordshire, in 1899, and assisted Dr. Menzies to open the County Mental Hospital at Cheddleton, where he remained until 1907 as senior assistant physician. It was then that he obtained his appointment as medical superintendent of the City of Norwich Mental Hospital, which he held until his death.

A capable administrator, and one of the pioneers of modern methods in the treatment of mental illness, he will be gratefully remembered by many hundreds of patients who came under his care and benefited by the skill which he so unstintingly gave to them. Of him it may be truly said that he devoted his whole life to the furtherance of the interests of the hospital, and to the treatment and comfort of the patients committed to his care. During the last few years new wards have been added to the hospital, to the construction and equipment of which he gave unremitting care and which are models of what such wards should be. At the present time an "admission hospital," to which he had given much thought, is in the process of erection, and almost to the end he was asking how the work was proceeding, and planning its staffing and equipment. His pioneer work as medical adviser to the Committee for the Care of the Mentally Defective, a post which he held for many years, is evident in the manner in which these unfortunates are looked after at the certified institution in Norwich.

Dr. Rice had been a member of the British Medical Association since 1899, and acted as representative in the Representative Body in 1930 (London), 1931 (Eastbourne), and 1932 (London). He also held the offices

of chairman of the East Norfolk Division from 1932 to 1934, and was president of the Norfolk Branch 1934–5, vacating the latter office as recently as July. He also acted on the executive of the Royal Medico-Psychological Association. His official work in connexion with both associations was always marked by his intense keenness on the work in hand, and his great anxiety to further the best interests and hold high the standard of honour of the profession to which he belonged. He was an enthusiastic Freemason, a Past Master of Union Lodge in Norwich, a Past Provincial Senior Warden of Norfolk, a Past Master and Secretary of the Norfolk Installed Masters' Lodge, and at the time of his death was a Present Officer of the Grand Lodge of England. A great lover of music, he was a keen member of the Norwich Philharmonic Society, while as a sportsman he was devoted to cricket and captained the hospital team for many years, excelling as a batsman and wicket-keeper. As superintendent of the hospital he set a great example to those who worked under him. A somewhat strict disciplinarian, he nevertheless won the respect and affection of his staff. Very approachable, he grudged no time and spared no trouble to assist those who were in difficulties and asked his advice or help. His place will indeed be difficult to fill.

C. R. F. H.

FREDERIC HARRY HAYNES, M.D., F.R.C.P.

Consulting Physician to the Warneford Hospital, Leamington

We regret to announce the death, on August 6th, at the age of 90, of Dr. F. H. Haynes, J.P., of Leamington. Dr. Haynes was the son of the late John Bishop Haynes, F.R.C.S. He was born at Evesham, Worcestershire, and was educated at Epsom College from 1856–61. He received his medical training at St. Bartholomew's Hospital, and qualified M.R.C.S. in 1866. Two years later he graduated M.B.Lond., with honours, and in 1871 proceeded M.D. He became a member of the Royal College of Physicians of London in 1881, and was elected F.R.C.P. in 1895. After acting as house-surgeon to the West London Hospital, he held a similar post at the Warneford Hospital, Leamington from 1869 to 1872, after which he built up a large practice in the town, being appointed physician to the hospital, and also to the Hospital for Incurables and Provident Dispensary. He took especial interest in the scientific advances in medicine, particularly in connexion with syphilis and its relation to cancer, and contributed articles on these subjects to the *British Medical Journal* and other periodicals. He joined the British Medical Association in 1873, and remained a member for fifty-eight years. His chief recreation was shooting. He was J.P. for the borough of Leamington. His younger brother, Horace Eyre Haynes, J.P., was surgeon to Evesham Hospital from 1884 to 1900, and afterwards medical licensee of Littleton Hall, Brentwood, Essex, which is now in charge of his son, Dr. H. G. L. Haynes, nephew of Dr. F. H. Haynes.

By the death of CECIL W. R. MCCALDIN, at the early age of 35, Nottingham has lost one of its most promising young surgeons. He will be mourned not only by his intimate friends, but also by those who came in touch with him, either as patients or as medical colleagues. He graduated M.B., B.Ch. at Trinity College, Dublin, in 1922, and it was after doing house appointments in Dublin and Canterbury that he came to Nottingham, first as house-surgeon at the Nottingham General Hospital and then as R.M.O. at the Eye Infirmary. On completion of his term at the Eye Infirmary he took the F.R.C.S.Ed. diploma, and on his return to Nottingham went into general practice for a short while before starting practice as an ophthalmic surgeon. At the time of his death he was honorary assistant surgeon at the Nottingham Eye Infirmary. Whether as house-surgeon, general practitioner, or ophthalmic surgeon he won for himself by his tireless devotion to work and his lovable personality a very high esteem. He was enthusiastic, hard-working, impulsive, warm-hearted, and loyal. He studied whatever of value was written on ophthalmic subjects, and wherever good work was being done he made a point of seeing it and applying the lessons he had learned to his own problems. Only just before being confined to bed he had returned from the Continent, where he was a member of a party visiting surgical centres. He was equally keen on sport. While at Trinity he gained his Rugby colours, and while at Nottingham he frequently played lawn tennis for his club, as well as being a good golfer.

A. G.

The district of South Liverpool, and those of his colleagues who knew him, sincerely regret the recent death of Dr. A. J. MCCONNELL, which occurred after a short illness at the age of 49. He was born at Ballymena in Northern Ireland in 1886, and graduated M.B., Ch.B. at the University of Edinburgh in 1909. He held the post of assistant resident medical officer at Smithdown Road Hospital, Liverpool, from 1910 to 1912, and then settled down in general practice. During the great war Dr. McConnell served as a captain in the R.A.M.C. from 1916 to 1918, the greater part of which time he spent in Salonika. After the war he returned to his general practice, and continued this until the time of his death. Dr. McConnell was one of the most unassuming of men, and both colleagues and patients alike were invariably impressed by his genial personality and unobtrusive kindliness. He was especially interested in midwifery, and many patients have good cause to thank his skill and judgement. Dr. McConnell leaves a widow and a family of six children, two of whom are medical students.

J. C. R.

Dr. ERNEST TREDINNICK, who died in London on July 20th at the age of 84, was at one time one of the best-known figures in South Shropshire. He was said to have had one of the largest and best country practices in England, and was immensely popular with rich and poor alike. A Cornishman by birth, he was educated at St. Thomas's Hospital, and qualified in 1875. He started practice soon afterwards at the little village of Strefford in South Shropshire, in partnership with the late Dr. Jones. Old inhabitants can still tell of the handsome, smart, up-to-date young doctor who came straight from London and carried everything before him. Firm and decisive, but kindly in manner, with twinkling, merry eyes, charming voice, and witty speech, he had wonderful control over his patients and rapidly made a great reputation. After a few years he moved to Craven Arms, where he remained until his final retirement in 1926. For very many years he was the only doctor in the district. Dr. Tredinnick was a sportsman in the truest sense of the word: an excellent horseman, he was noted for riding and driving the best-looking and fastest horses in the country round. At one time he played polo, and he used to judge horses and cobs at the Stokesay and other neighbouring agricultural shows. He was also a keen fly-fisherman. His home—Penlu House—presided over by his charming Irish wife and brightened by the presence of a merry family, was memorable for its hospitality. He was greatly liked and trusted by his brother practitioners in the county, and was a constant attendant at medical meetings. In 1900 he was president of the Shropshire and Mid-Wales Branch of the British Medical Association, and he represented it on the Representative Body in 1912, 1913, and 1914. During the great war he served on the medical war committee for the Branch area and as a member of the Branch Council. During the years of the passing of the Insurance Act his advice on all matters of medical ethics and politics was greatly valued, the more so because it was not only wise but more often than not witty too. His eldest son volunteered for service with the Shropshire Yeomanry in the South African War and was killed by the last shot fired the very day that peace was declared. A memorial window in his

honour is to be seen in Stokesay Church. Two other sons served with distinction in the great war, one being awarded the M.C. After his retirement from practice Dr. Tredinnick went to live quietly in London. His wife had died a year ago, and he was buried by her side in Stokesay Church on July 24th. A large number of neighbours and old patients attended the funeral.

In the sudden death of WILLIAM FLETCHER-BARRETT, M.B., B.S.Lond., on July 6th, the medical profession of Cairo has lost a distinguished and devoted member. Before the war he gave much time to scientific research work in London and Dublin, and later took up medicine, entering as a student at St. George's Hospital. At the beginning of the great war he organized a large French military hospital at Limoges, of which he was administrator until 1917, for which work he received a French decoration. In 1917 he transferred to the British Royal Army Medical Corps, and spent some time at Millbank, afterwards returning to France, where he remained till hostilities ceased. In August, 1919, he went to Egypt, where he was appointed medical officer to G.H.Q., Cairo. He held this appointment for four years. He was demobilized in 1923, when he started a private practice in Cairo. Dr. Fletcher-Barrett was honorary medical adviser to the Residency for many years until his death. He was also an honorary physician on the staff of the Anglo-American Hospital and the Victoria Hospital, Cairo. He became a member of the British Medical Association soon after qualifying, and was an Egyptian representative at the Centenary Meeting in London, 1932, and the Annual Meetings in Dublin, 1933, and in Bournemouth, 1934. During the past four years it has been necessary for him to have treatment for some heart trouble at Bad Nauheim, Germany, and at Royat, France. It was at the latter place that his death occurred so suddenly. He had only left Egypt for his yearly leave three weeks previously, and was well but tired after a very busy season in Cairo. His passing is a very personal sorrow to his many friends, who have a wide knowledge of his untiring, selfless, and kindly devotion. His wonderfully happy disposition endeared him to everyone. He leaves a widow and a young daughter of 7 years; also a son by a former marriage, who is a Major in the R.A.M.C. in a British Military Hospital in India.

We regret to record the death in London, on July 17th, of Dr. ARTHUR ALAN MILLER. Dr. Miller was born in 1874, being the second son of the late G. W. Miller, and was educated at Forest School, Walthamstow. He went to Guy's Hospital in 1893 and had a successful medical career as a student. He was one of the most popular men who ever entered Guy's. He was a clever amateur actor and also a good dramatic writer. He had a very large share in the Guy's Hospital comic paper, *The Guyoscope*, which, while it lasted, was one of the most famous of all hospital journals. Miller was invaluable at all hospital concerts and dramatic entertainments, and no one in the last generation has quite filled his place in the social life of the hospital. After qualification he worked at the Northampton Hospital and later went to Durham, taking his M.D. degree there. He practised for a few years in Sutton, and moved to Westminster not long before the war. It was while practising there and in the City that he published his book, *The Care of Children*. Early in the war he joined the R.A.M.C., and saw varied service in casualty clearing stations in France, Mudros, Egypt, and Italy. He was mentioned in dispatches. The end of the war found him acting lieutenant-colonel in command of a casualty clearing station on the Italian Front. Afterwards he served for about six years at the Ministry of Pensions, and later resumed his practice in the City, where he was medical adviser to several important banks and companies, including the R.M.S.P. Co. He was also physician to out-patients at the Evelina Hospital. Throughout his life he was greatly interested in the stage, and wrote several sketches for Arthur Roberts and George Graves. Among his plays were: *The Gipsy Princess*, *A Night Out*, *The Early Girl*, *Motherhood*, and, in conjunction with Mr. George Arthurs, the Aldwych farce *Marry the Girl*. He was a member of the Savage Club. He had been in ill-health for some time, but had continued his work with great courage. He leaves a widow and one son.

We regret to record the death in his fifty-fourth year, on August 5th, of Dr. GILBERT JOHN FARIE of Wimbledon. Born at Bridge of Allan, Stirlingshire, in 1881, he was educated at Stirling High School and Edinburgh University. He graduated M.B., Ch.B. in 1903, and then held several medical appointments, including those of resident physician to the Edinburgh Royal Infirmary attached to the gynaecological wards, and resident surgeon to the Edinburgh Royal Maternity Hospital, the Nottingham General Hospital, and the Bradford Children's Hospital. He had always taken a special interest in the diseases of women, and when he subsequently entered general practice he achieved a considerable reputation in this specialty. During the war he served in France from 1916 to 1919, being attached to Number 10 Stationary Hospital, the 49th Division, and the 1st Division. He was awarded the Military Cross for his gallantry. In Wimbledon Dr. Farie had assisted to build up a very large practice, and was honorary surgeon to Wimbledon Hospital. He was also medical officer to the Surrey branch of the British Red Cross Society and divisional surgeon to the Metropolitan Police. He was a Fellow of the Edinburgh Obstetrical Society and a member of the Royal Medical Society of Edinburgh; he joined the British Medical Association in 1905. His chief recreations were golf, lawn-tennis, and fishing.

Universities and Colleges

UNIVERSITY OF CAMBRIDGE

At a congregation held on August 3rd the following medical degrees were conferred:

M.D.—G. J. V. Crosby.

M.B., B. CHIR.—*S. M. Evans, T. M. Tyrrell, M. Hynes, H. T. Laycock, G. Blackburn, J. N. Warren, H. B. D. Kettlewell, C. W. A. Searle.

M.B.—W. S. Haynes, H. J. M. Robinson, R. J. Still.

B.CHIR.—*G. R. Debenham, *P. E. C. Manson-Bahr, *W. G. Brander, *C. E. Bevan, *T. S. R. Fisher, T. G. Armstrong, W. A. Law, G. C. Tooth, A. R. Kelsall, J. G. Webb, A. W. Abramson, J. H. Stothert.

* By proxy.

UNIVERSITY OF LONDON

The following candidates have been approved at the examination indicated:

M.D.—*Branch I (Medicine)*: F. R. Bettley, C. R. Birnie, K. C. Buck, A. Caplan, S. B. Dimson, A. E. Francis, D. H. Fulton, T. G. F. Hudson, I. G. Jones, A. Kahan, C. B. Lanyon, L. J. M. Laurent, H. G. McComas, I. More, R. S. Ogborn, Ruth Pumphrey, R. S. Risk, K. M. Robertson, V. E. P. Senewiratne, R. Shelley, R. Sykes, Joan B. Walker, Mary J. Wilmers, J. L. Woodhouse. *Branch II (Pathology)*: N. F. Maclagan. *Branch III (Psychological Medicine)*: J. G. Hamilton. *Branch IV (Midwifery and Diseases of Women)*: Olive M. Midgley, L. N. Reece, C. P. Scott. *Branch V (Hygiene)*: V. FitzC. Anderson, Edith J. R. Browne. *Branch VI (Tropical Medicine)*: K. V. Earle, E. G. Wilkins.

CONJOINT BOARD IN SCOTLAND

The following candidates have been approved at the Final Professional Examination for the Scottish Triple Qualification:

F. C. Alexis, P. Anyos, S. F. Aron, K. Atchamamba, G. B. Beckner, W. M. Bennett, W. J. M. Beveridge, A. Caplan, A. S. Chiekrie, N. G. Clements, M. Cohen, H. Cohn, A. Conn, M. Dinner, A. H. Dobbin, A. H. Elder, I. J. Fernando, H. Fischgold, J. A. Geerthsen, V. W. C. Gordon, J. E. Greene, H. R. Hagemann, Emmy Hahn, M. Hammer, D. T. Herkus, H. K. Hosny, H. N. Katz, T. S. B. Kelly, L. Kleeberg, L. L. Kramer, J. Kruger, Anna Lewin, A. Lucas, Ilja Margolin, Ann W. M. Miller, Marjorie B. Morton, O. W. Nelki, C. B. Phillips, B. de F. Pieris, E. Plesch, A. Rabinowitz, P. S. Reisman, L. A. St. L. Richards, P. Salsberg, N. A. Samuels, M. J. A. Sandrasagra, A. Shechtman, H. B. Silverman, H. Simon, S. Smulowitz, O. J. Sokoloff, L. N. Soon, J. Squire, H. Stern, K. Stern, W. P. Steyn, S. Stromberg, T. H. Thompson, A. S. Torrance, E. Widrich, G. E. W. Winter, Ilja Wolpert.

Medical News

The Medical Research Council has appointed Professor J. A. Nixon, M.D., and Dr. R. E. Lane, to fill vacancies in the membership of its Industrial Health Research Board.

Mr. Leslie Paton, consulting ophthalmic surgeon to St. Mary's Hospital, has been elected an honorary member of the American Medical Association.

Sir Arthur Keith has accepted the presidency of the newly formed British Speleological Association, for the excavation and classification of human and animal remains found in caves and the exploration of pot-holes.

The March issue of the *Publications of the South African Institute for Medical Research* (Vol. vi, No. XXXV) forms one of a series of entomological studies, and its subject is "Insects of Medical Importance in South Africa" (Part II). The author is Botha De Meillon, D.Sc., of the malarial research station of the Institute in Zululand.

The International Society of Medical Hydrology will hold its annual meeting at Brussels and Ostend from October 12th to 17th, when the following subjects will be discussed: the action of carbon dioxide on the peripheral circulation, the therapeutic action of muds, and the therapeutic action of a sea climate. The first two subjects will be discussed at Brussels on October 13th and 14th, and the third at Ostend. The intervening days will be spent on a visit to Mondorp and Spa. Further information can be obtained from the secretary of the society, 100, Kingsway, W.C.2.

The following lectures, open to all practitioners, will be given at the Westminster Hospital Medical School, 12, Caxton Street, S.W., on Saturday and Sunday, September 28th and 29th. On September 28th, 10 a.m., Mr. A. Tudor Edwards and Dr. W. E. Lloyd, the treatment of pulmonary tuberculosis; 11.45 a.m., Dr. R. J. V. Pulvertaft and Dr. N. F. Maclagan, diabetes. On September 29th, 10.15 a.m., Dr. Adolphe Abrahams, the physical and psychological basis of disease; 11.15 a.m., Dr. R. Lightwood, some practical points in the diagnosis and treatment of disease in childhood; 12.15 p.m., Mr. Stanford Cade, the earlier diagnosis of accessible cancer. The annual dinner of old students will be held at the Trocadero Restaurant on Saturday, September 28th, with Dr. Vivian B. Orr in the chair. The inaugural address will be given by Major Ian Hay Beith, *M.C.*, at Caxton Hall, Caxton Street, S.W., on Monday, September 30th, at 3 p.m. His subject will be "The Privileged Profession."

The Fellowship of Medicine (1, Wimpole Street, W.) announces that the next series of post-graduate courses will begin in September, when the following will be available: Advanced course in heart and lung diseases at Royal Chest Hospital, Mondays, Wednesdays, and Fridays, 8 p.m. to 10 p.m., September 9th to 27th; evening M.R.C.P. course at National Temperance Hospital, Tuesdays and Thursdays, 8 p.m., September 10th to 26th; infants' diseases at Infants Hospital, every afternoon, September 2nd to 13th; medicine, surgery, and the specialties at Westminster Hospital, September 16th to 28th; chest diseases at Brompton Hospital, September 23rd to 28th; and a week-end course in ophthalmology at Royal Westminster Ophthalmic Hospital, September 28th and 29th. Other forthcoming courses include lectures in anatomy and physiology for the Primary F.R.C.S. at Infants Hospital, Mondays, Wednesdays, and Fridays, 8 p.m., October 7th to November 29th; endocrinology at National Temperance Hospital, Tuesdays and Thursdays, 8.30 p.m., October 8th to 24th; lectures on gynaecology at Medical Society of London, Thursdays, 4 p.m., October 10th to November 7th. Detailed syllabuses of all courses can be obtained within a few weeks of the starting date of each course. Clinics, courses of instruction, etc., arranged by the Fellowship, are open only to members and associates.

A post-graduate course in *x*-ray diagnosis, especially kymography, will be held by the German Röntgen Society from September 23rd to 29th. Further particulars can be obtained from the secretary, Dr. Theodor Becker, Ottostrasse 5, Munich.

The German Orthopaedic Congress will be held at Cologne from September 2nd to 4th. Further information can be obtained from the president, Professor Hackenbrock, Orthopädische Klinic, Burgerspital, Köln.

The Belgian Society of Ophthalmology, on the occasion of the International Exhibition, will hold a special meeting at Brussels on September 22nd, to which all ophthalmologists are invited. Further information may be obtained from the general secretary, Professor Van Duyse, 13, Place van Artevelde, Ghent.

The fifty-sixth international post-graduate course of the Vienna Medical Faculty will be held from September 23rd to October 5th, when the subject will be the progress of medicine, with special reference to treatment.

The eleventh Medical Congress of the Alpine Countries will be held at Innsbruck on October 7th and 8th, when the chief subject for discussion will be disturbances of internal secretion.

The congress of the German Society for the Study of Accidents and Insurance Medicine will be held in Berlin on October 18th and 19th. Further information can be obtained from Professor zur Verth, Fontenay 8, Hamburg 36.

The issue of the *Revue Médicale de la Suisse Romande* for June 25th is dedicated to the memory of Dr. Ernest Kummel (1861–1933) of Geneva, who was professor of operative medicine and surgical pathology for sixteen years and of clinical surgery for another sixteen years.

The Republic of Uruguay, which has a little less than two million inhabitants, possesses 1,346 doctors. The faculty of medicine of Montevideo has 1,236 students, and every year about 900 are qualified. In six years Uruguay will have one doctor for every thousand inhabitants.

At the request of the German Minister of the Interior the German Society of Neurologists has become merged with the German Association of Neurologists and Psychiatrists under the presidency of Professor Rudin of Munich.

The Society for the Provision of Birth Control Clinics announces that Dr. Gladys Cox will give to medical students and practitioners a lecture on the theory and practice of contraception on Friday, September 13th, at 6 p.m., at the Walworth Women's Welfare Centre, 153A, East Street, S.E.17. Demonstrations will be given on September 20th at 6 and 7 p.m., and on September 27th at the same times. Those attending demonstrations are asked to bring rubber gloves. A fee of 5s. is charged. Tickets for the lecture should be applied for in advance.

The Société Médicale de l'Opéra, Paris, has recently celebrated the centenary of its foundation in 1835.

A comprehensive review of the factors that govern successful buying is contained in the report of the Committee on the Standardization and Simplification of the Requirements of Local Authorities (H.M. Stationery Office, 6d.). The committee was appointed in 1932 after a conference, called by the Minister of Health, of all the associations of local authorities, of whom it is representative. It has issued two reports, both of them unanimous. The first was published by H.M. Stationery Office (price 2d., post free 2½d.) last year. It defined standardization as "the production of a standard unit incorporating the best points of all available types," and simplification as "the adoption of the type or types most generally used." It found that where standardization and simplification had been adopted economy and increased efficiency had always resulted. The second report, published on August 6th, urges these principles upon local authorities, and in particular advises them to buy their requirements in bulk, and if they are acting alone, too small to secure large-scale buyers' terms, to combine with other local authorities for the purpose.

Letters, Notes, and Answers

All communications in regard to editorial business should be addressed to **The EDITOR, British Medical Journal, B.M.A. House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone, unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs. Authors over-seas should indicate on MSS. if reprints are required, as proofs are not sent abroad.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager.

The **TELEPHONE NUMBER** of the British Medical Association and the *British Medical Journal* is EUSTON 2111 (internal exchange, five lines).

The **TELEGRAPHIC ADDRESSES** are
EDITOR OF THE *BRITISH MEDICAL JOURNAL*, *Aitiology Westcent, London.*
FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*
MEDICAL SECRETARY, *Mediseera Westcent, London.*

The address of the Irish Office of the British Medical Association is 18, Kildare Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 62550 Dublin), and of the Scottish Office, 7, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 24361 Edinburgh).

QUERIES AND ANSWERS

Osteoarthritis of Hip

"India" writes: Can any reader advise me in the following case which has just come under my care? It is that of a European patient who has had a progressive osteo-arthritis of the left hip for ten years, as shown by *x* rays. There is a typical "cauliflower" joint, but practically no restriction of movement. At present there is a gradually increasing weakness of the leg and some signs of drop-foot, frequent sciatic neuralgia, and decreased knee-jerk on that side. There is a feeling of weakness up the whole side of the body, and especially in the arm, where there is increasing loss of control of the finer movements (on that side only). Teeth were all removed, and there are no other signs of a septic focus. There is history of sore forty years ago (? chancre), but blood and cerebro-spinal fluid examinations are now negative. The patient is fit and cheerful and as active as the condition permits. There has been slight temporary improvement with potassium iodide and nux vomica. Finances do not permit of change of climate.

Spreading Haemangioma

"X. Y. Z." (Northern Ireland) asks to be informed by readers of any method which they have employed satisfactorily for the treatment of the large spreading haemangiomata which involve the cheek, face, mouth, and lips, etc. An estimation of the value of *x* rays, radium (superficial or implanted), or any other method would be greatly appreciated.

Treatment of Tapeworm

Dr. R. G. Clements (Southport) writes: In reply to your correspondent "J. R. F. P." in the *Journal* of August 3rd (p. 242) may I suggest the following line of treatment. It has been my intention for some years to publish a case with tapeworm which had lasted five years and resisted every form of treatment by anthelmintics, and which, I believe, is the first case on record where operative procedure has been adopted to loosen a recalcitrant scolex from a tenacious grip of the intestinal mucosa. The patient, aged 34, consulted me in January, 1926, stating that she had suffered from a tapeworm for five years. She was a large, gaunt woman, emaciated, weighing 6 st. 4 lb., with marked nervous and intestinal symptoms. She had been twice in the Manchester Royal Infirmary and once in Salford Royal Hospital, besides consulting a numerous band of private practitioners, herbalists, etc. I was determined not to be added to the already long list of those who had failed to relieve her, and so decided to pursue a course which ended happily and restored the patient to normal health and activity. I performed an appendicostomy, inserted a catheter, and flushed the intestine out with a 1 per cent. solution of iodine. The scolex came away within five minutes. I saw the patient last autumn; she has had no illness since the operation, and now weighs 11 st.

Income Tax

Cash Basis

"E. S." commenced partnership in January, 1934, and the inspector of taxes will not admit the accounts on a cash basis for that year.

*** Our experience is that a cash basis account will usually be accepted in such circumstances provided: (*a*) that *all* receipts, including those taken by, or passed on to, the vendor of the partnership share are credited in the account, and (*b*) that there are no grounds for supposing that the change in the partners will materially increase the profit of the practice. Unless both these conditions are satisfied the cash account will show a profit smaller than the true earnings of that year, and in that case the "bookings" basis is unavoidable.

LETTERS, NOTES, ETC.

Australian and New Zealand Association of Radiology

The Australian and New Zealand Association of Radiology was registered as a limited company last February, and its first annual general meeting was held at Canberra on May 17th, when Dr. A. T. Nisbet of Sydney was elected president and Dr. H. M. Cutler (135, Macquarie Street, Sydney, N.S.W.) was appointed honorary secretary. The association has been established to promote the interests of radiology, radio-activity, physiotherapy, and allied sciences, with special reference to research. Branches are being created in all the States of the Commonwealth and in New Zealand, with a central federal council as a controlling body. Conferences will be arranged in due course, and reports will be published in the *Medical Journal of Australia* and the *New Zealand Medical Journal*, as well as original papers on scientific subjects of interest to members of the association.

"Cerebral Malaria or Encephalitis Lethargica?"

Dr. P. K. Ghosh (Kenfig Hill, S. Wales) writes: With reference to my clinical memorandum (*Journal*, July 27th, p. 162) I beg to state that, from further information now available, the patient had vague and indefinite neurological symptoms such as "general backwardness" and "impediment of speech" before he had the fever referred to. The fever appears to be due to malaria, as a malarial parasite was found in the blood.

A Warning

Dr. H. S. Griffith (Sheerness) writes: May I warn fellow practitioners against a bogus commercial traveller who is soliciting orders for medical stationery and such goods, brass plates, bottles, wrapping materials, and even motor oil. He is a very plausible man of Jewish appearance, aged between 30 and 40 apparently, and is accompanied in his car by a young woman. I need hardly add that he asks for payment in advance, promising delivery of the goods in fourteen days.

Gas Heaters in Flueless Rooms: Correction

In the article on the use of gas heaters in flueless rooms, in last week's issue (p. 268), we are made to say that "as much as 5 or even 7 per cent. of carbon *monoxide* is commonly used as an inhalation for the resuscitation of cases of asphyxia" (column 2, thirty-third line). The statement should of course have referred to carbon *dioxide*, the error being due to a lapse in the proof-reading department.

T. J. Smith and Nephew Limited (Neptune Street, Hull) have published a third edition of *Elastoplast Technique*, of which some 30,000 copies have been distributed to the medical profession. The new edition is much enlarged, and describes the various uses of and indications for "elastoplast" elastic adhesive bandages and dressings. Copies will be supplied gratis to any reader who sends a postcard to the manufacturers.

Vacancies

Notifications of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 34, 35, 36, 37, 38, 39, 42, and 43 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 40 and 41.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page *108*.

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The British Medical Journal is open to accept advertisements for any approved products or services appealing to the professional and private needs of the medical profession. A large section at the rear of the Journal is devoted to "domestic" announcements regarding Practices wanted and for sale, Partnerships, and Assistancies, also Hospital Vacancies and Miscellaneous advertisements.

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